

OFFICE OF THE COUNCIL

COUNCIL MEMBERS

BRANDON McCULLOUGH, PRESIDENT
MARTHA PTASHNIK, VICE PRESIDENT
CARRIE BUDZINSKI
ROB GJONAJ DONOVIC
SCOTT MORGAN
LYNDA L. SCHEEL
LAURA M. TOY



33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3097
(734) 466-2250
citycouncil@livonia.gov

OFFICE OF THE COUNCIL

**MEETING PACKET FOR
THE REGULAR MEETING OF
MONDAY, JULY 21, 2025
7:00 P.M.**

**The electronic agenda is compiled, produced and
distributed by the City Council Staff.**

(734) 466-2250

The official documents are on file in the City Clerk's office.

2021st Regular Meeting Agenda of the Council of the City of Livonia
Monday, July 21, 2025
7:00 p.m. - City Hall Auditorium
33000 Civic Center Drive, Livonia, Michigan

CALL TO ORDER

INVOCATION/PLEDGE OF ALLEGIANCE

ROLL CALL

PRESENTATION OF MINUTES – Regular Meeting Minutes of July 7, 2025

AUDIENCE COMMUNICATION

REPORTS FROM THE MAYOR AND OTHER CITY OFFICIALS

- a. [ADMINISTRATIVE RESPONSE TO CR 337-24: Office of the Mayor and Office of Government Affairs, re: Controlling the Urban Deer Population.](#)
- b. [Communication from the Department of Finance dated June 24, 2025, re: forwarding the Departmental Purchases Report, for the months ending April 30, 2025, and May 31, 2025.](#)
- c. [Communication received in the Office of the City Clerk, dated June 5, 2025, forwarding the 2025 Tax Rate Request \(Form L-4029\), from the Charter County of Wayne, Michigan, regarding the collection of the district's taxes.](#)
- d. [Communication received in the Office of the City Clerk, dated May 22, 2025, forwarding the 2025 Tax Rate Request \(Form L-4029\), from the Clarenceville School District, regarding the collection of the district's taxes.](#)
- e. [Communication received in the Office of the City Clerk, dated June 23, 2025, forwarding the 2025 Tax Rate Request \(Form L-4029\), from the Livonia Public Schools, regarding the collection of the district's taxes.](#)
- f. [Communication received in the Office of the City Clerk, dated June 3, 2025, forwarding the 2025 Tax Rate Request \(Form L-4029\), from the Oakland Schools ISD, regarding the collection of the district's taxes.](#)
- g. [Communication received in the Office of the City Clerk, dated June 18, 2025, forwarding the 2025 Tax Rate Request \(Form L-4029\), from the Plymouth Road Development Authority, regarding the collection of the district's taxes.](#)
- h. [Communication received in the Office of the City Clerk, dated May 28, 2025, forwarding the 2025 Tax Rate Request \(Form L-4029\), from Schoolcraft College, regarding the collection of the taxes.](#)
- i. [Communication received in the Office of the City Clerk, dated April 1, 2025, forwarding the 2025 Tax Rate Request \(Form L-4029\), from the State of Michigan, regarding the collection of the district's taxes.](#)
- j. [Communication received in the Office of the City Clerk, dated June 11, 2025, forwarding the 2025 Tax Rate Request \(Form L-4029\), from the Wayne County Regional Educational Service Agency \(RESA\), regarding the collection of the district's taxes.](#)

CONSENT AGENDA

1. [BLOCK PARTY: Russ Facione, re: to be held Saturday, August 2, 2025, from 1:00 p.m. to 9:00 p.m., on Arden Street between Elmira Street and Plymouth Road. \(Approving\)](#)
2. [BLOCK PARTY: Alex Quint, re: to be held Saturday, September 6, 2025, from 3:00 p.m. to 10:00 p.m., between 9912 and 10000 Fairfield Street. \(Approving\)](#)

3. WAIVER PETITION: Planning Commission, re: Petition 2025-05-02-10 submitted by Tiseo Architects requesting waiver use approval to build an addition to the existing veterinary hospital at 27492 Five Mile Road, located on the northeast corner of Five Mile Road and Foch Street in the Southeast ¼ of Section 13. (Approving)
4. REQUEST FOR AUTHORIZATION TO LEASE ONE (1) 2025 FORD E450 CHAMPION CHALLENGER CH4 PASSENGER BUS THROUGH THE STATE OF MICHIGAN BID PROCESS: Department of Housing, re: for transporting Senior Center participants to events and activities, with funds budgeted from the Community Development Block Grant Program. (Approving)
5. AWARD OF BID: Department of Parks and Recreation, re: remediation services at the Alexander Blue House at Greenmead Historical Park, from budgeted funds. (Approving)
6. AWARD OF BID: Department of Parks and Recreation, re: the replacement of the medium in the sand filters at the Jack E. Kirksey Recreation Center for the leisure pool and spa, from budgeted funds. (Approving)
7. REQUEST TO CONSIDER THE PROPOSED NAME FOR THE NEW SENIOR FACILITY: Department of Parks and Recreation re: the naming of the new senior facility as the Livonia Senior Wellness Center. (Approving)
8. AWARD OF BID: Department of Public Works, re: the generator replacement at Fire Stations 3 and 6 and DPW Building Maintenance building 13, as part of the Generator Replacement Program, from budgeted funds. (Approving)
9. AWARD OF CONTRACT: Department of Public Works, Water & Sewer Department, re: sewer line chemical root control services, in an annual amount not to exceed \$100,000.00, for a period of three years, with the option of a two-year extension, from budgeted funds. (Approving)
10. AWARD OF CONTRACT: Department of Public Works, re: parking, athletic, and streetlight electrical maintenance and general electrical maintenance at all City buildings and facilities for the period June 1, 2025, through May 31, 2028, from budgeted funds. (Approving)
11. REQUEST TO WAIVE THE FORMAL BIDDING PROCESS AND EXTEND CONTRACT WITH HAVENER TECH: Department of Public Works, re: the completion of all repair work required in connection with catch basin, storm sewer, and concrete slab stabilization, in an amount not to exceed \$100,000.00 annually, from budgeted funds. (CR 286-23) (Approving)
12. REQUEST FOR ADDITIONAL APPROPRIATION: Department of Public Works, re: the unexpected trimming and removal of trees resulting from increased tree trimming requests and section trimming in 2025, from the Forestry Fund. (Approving)
13. REQUEST FOR AUTHORIZATION TO PURCHASE ONE 2025 FORD F150 SUPER CAB XL 4X4 PICKUP TRUCK THROUGH THE STATE OF MICHIGAN AND MACOMB COUNTY BID PROCESS: Public Works Division, re: for use by the Water Supervisor, from budgeted funds. (Approving)
14. REQUEST FOR AUTHORIZATION TO PURCHASE AND UPFIT ONE FREIGHTLINER MT55 STEP VAN THROUGH THE SOURCEWELL PURCHASING CONSORTIUM: Department of Public Works, re: to replace the current front-line water repair truck, from budgeted funds. (Approving)
15. REQUEST TO ACCEPT STORM WATER FACILITIES MAINTENANCE AGREEMENT: Engineering Division, re: from Adams Park Development, LLC, in conjunction with the construction of a storm drain system that provides adequate for the Lyndon Park Site Condominium, in the Southeast 1/4 Section of 24. (Approving)

UNFINISHED BUSINESS – MEETING(S) OF THE COMMITTEES

16. COMMITTEE OF THE WHOLE MEETING OF APRIL 28, 2025

- a. The subject matter of Petition 2025-01-02-01 submitted by Eman Enterprises LLC, requesting waiver use approval to redevelop an existing commercial site, including adding service bays, renovating the interior and exterior of the building and operating an automobile repair facility at 27819 Plymouth Road, located on the southwest corner of Plymouth and Cardwell Street in the Northeast ¼ of Section 34. (CR 74-25)

17. COMMITTEE OF THE WHOLE MEETING OF MAY 19, 2025

- a. The subject matter of an investigation into City Departments and their procedures as it relates to the City's Charter. (CR 131-25)

18. COMMITTEE OF THE WHOLE MEETING OF JUNE 16, 2025

- a. The subject matter of the Noble Library and Shelden Park issues (CR 116-24)

19. CAPITAL OUTLAY AND INFRASTRUCTURE COMMITTEE MEETING OF JULY 9, 2025.

- a. The subject matter of the planning, design and construction of the new Civic Center Campus. (CR 330-24)

UNFINISHED BUSINESS

20. PROPOSED AMENDMENT TO THE LIVONIA CODE OF ORDINANCES, AS AMENDED: Department of Law, re: to amend Section 040 and Add Sections 540, 550, 560 of Title 6 (Animals), Chapter 01 in order to regulate the keeping of racing pigeons.

21. PROPOSED AMENDMENT TO THE LIVONIA CODE OF ORDINANCES, AS AMENDED: Department of Law, re: to Title 12, Chapter 18 (Naming of Public Places and Buildings), Section 020 to name the new senior facility as the Livonia Senior Wellness Center.

22. ROLL CALL: Proposed Amendment to the Livonia Code of Ordinances, as amended: Department of Law, re: to amend Section 100 of Title 9, Chapter 56 (Malicious Mischief), to modernize the language used in the malicious use of a telephone ordinance.
First Reading given by Councilmember Lynda L. Scheel on July 7, 2025

23. ROLL CALL: Proposed Amendment to the Livonia Code of Ordinances, as amended: Department of Law, re: to amend Chapter 88 of Title 9 (Sale of Tobacco Products to Persons Under Age 21), to mirror the penalties of the state statute and tailor the language of the ordinance to prohibit the use of a nicotine vape in school buildings.
First Reading given by Councilmember Carrie Budzinski on July 7, 2025

24. ROLL CALL: Proposed Amendment to the Livonia Code of Ordinances, as amended: Department of Law, re: to add Section 045 of Title 9, Chapter 04 (Obstructing Officers and City Business), in order to give additional protection to a person that is making an emergency call and to criminalize the act of interfering with emergency services.
First Reading given by Councilmember Laura M. Toy on July 7, 2025

25. BLOCK PARTY: Ray Franges and Jim Rumrill, re: to be held Friday, August 8, 2025, from 12:00 p.m. to 10:00 p.m., on Brentwood Street between Jacquelyn Drive and Meadowlark Street, with a rain date of Saturday, August 9, 2025.

26. BLOCK PARTY: Christina Zeoli, re: to be held Saturday, August 9, 2025, from 11:00 a.m. to 8:00 p.m., on Summers Street, between Riverside Drive and Ashurst Street.

27. BLOCK PARTY: Tracy Nolte, re: to be held Saturday, September 6, 2025, from 4:00 p.m. to 10:00 p.m., on Marie Street and Court, between Knolson Street and Minton Avenue, with a rain date of Saturday, September 13, 2025.

28. SITE PLAN PETITION: Planning Commission, re: Petition 2025-05-08-06 submitted by Rich Naman, requesting site plan approval to construct a 4,164-square-foot warehouse garage at the Six Mid Plaza at 29441 Six Mile Road, located in the Northeast ¼ of Section 14.

NEW BUSINESS

29. BLOCK PARTY: Wafa Dinaro, re: to be held Saturday, August 2, 2025, from 3:00 p.m. to 8:00 p.m., on Huff Street between Ladywood and Kingsbury Streets, with a rain date of Sunday, August 3, 2025.
30. REQUEST TO ADOPT A RESOLUTION AS REQUESTED BY WAYNE COUNTY: Engineering Division, re: agreeing to the conditions under which the Water Main Replacement Project on Schoolcraft and Merriman Roads are to be completed.

AUDIENCE COMMUNICATION

NOTICE(S)

In accordance with Title II of the American with Disabilities Act as it pertains to access to Public Meetings, the City Clerk's Office of the City of Livonia, upon adequate notice, will make reasonable accommodations for persons with disabilities. Please call (734) 466-2236 or email clerk@livonia.gov as soon as possible if you need assistance. Council agendas are available on the City's website www.livonia.gov - under Your Government, City Council, Agendas & Minutes.

LORI L. MILLER, CITY CLERK



LETTER TO THE LIVONIA CITY COUNCIL

Mayor's Office
July 1, 2025

MEETING DATE

Regular Meeting of July 21, 2025

PRESENTED BY

AGENDA ITEM

a. ADMINISTRATIVE RESPONSE TO CR 337-24: Office of the Mayor and Office of Government Affairs Re: Controlling the Urban Deer Population.

BACKGROUND DETAILS

In response to requests from Council Office. The attached are the original report and recommendation (from 12/20/2024) as well as a cover letter, updating Council on possible actions as well as direction of future administration of deer population control activities.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

Receive and File

SPECIFIC NAME OF PRODUCT AND NUMBER TO BE PURCHASED (if more than one)

N/A

CONTRACT: Amount and/or purchase price and length of contract (with dates if applicable)

N/A

DETAILED WORK BEING PERFORMED

N/A

FISCAL CONSIDERATIONS (Amount requested and Account(s) used. If applicable, Grant Funding information)

N/A

ACCEPTANCE OF BID (Please detail the following: Why accepted, why not lowest bidder, company name, contact person, full address)

N/A

REASON TO WAIVE BID PROCESS (Emergency, Professional services, No advantage to City and why, Consortium package, etc): N/A

ATTACHMENTS

1. Deer Cull Response Cover Letter 7-1-2025
2. Deer Report and Recommendation to Council 12-20-24 signed

APPROVED BY



Maureen Miller Brosnan, Mayor

Date: July 08, 2025

Office of Governmental Affairs

ROBB DRZEWICKI
DIRECTOR

MAUREEN MILLER BROSNAN
MAYOR



33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3097
RDrzewicki@livonia.gov
(734) 466-2205

July 1, 2025

To: City Council
Re: Livonia's Potential Deer Cull

Please accept this cover letter as an explanation for the recent miscommunication between my office and the City Council Office.

The attached document, *"Deer Report and Recommendation to Council,"* was originally submitted to all Council Members on December 20, 2024, as part of a regular Council Communication. In a follow-up exchange, Program Supervisor Sara Kasproicz informed me that "Administrative responses to CR go on an agenda." Council President McCullough later clarified that "She's saying that the entire email will be added to the packet, no big deal and welcomed." Based on this, I assumed the full email update would have been added to Civic Clerk as a standard agenda item.

I apologize for any confusion this may have caused. Clearly, there were overlapping interpretations in communication, and I will try to ensure that such issues are avoided in the future.

Please note that nothing has changed in the report since its original submission, with two exceptions:

1. The USDA is currently under a hiring freeze, which limits their capacity to expand culling programs across the state. As a result, we will not be able to contract with them until the winter of 2026–27.
2. This matter was initially assigned to my department for research, outreach and response. As that work is now complete, administration of any future action will fall under the Livonia Police Department. Any related questions or actions moving forward should be directed to their leadership team.

Sincerely,

Robb Drzewicki
Director of Government Affairs
City of Livonia

OFFICE OF THE MAYOR

MAUREEN MILLER BROSAN
MAYOR



33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3097
mayor@livonia.gov
(734) 466-2201

TO: Livonia City Council

RE: Resolution 337-24 Controlling the Urban Deer Population

Background: Per resolution 337-24, the Administration has engaged multiple organizations seeking recommendation on the topic of controlling the urban deer population.

Action 1: Engagement with the Urban Deer Coalition

In 2023, Livonia joined the Urban Deer Coalition, seeking advice and best practices from other county and municipal governments as well as the Michigan DNR and USDA.

Action 2: Direct Engagement with the Michigan DNR

Jared Duquette from the DNR attended a Committee of the Whole meeting in order to give an overview and answer questions from Council and the audience. This meeting resulted in a motion passed out of the Committee seeking additional information and recommendation on performance of a deer cull in Livonia. That motion passed in the next Regular Meeting of the City Council

#337-24 RESOLVED, that having considered the report and recommendation of the Committee of the Whole, dated September 18, 2024, submitted pursuant to Council Resolution 213-23, the Council does hereby refer the subject matter of a proposed investigative phase concerning the culling and management of deer and coyote populations in the city and potential 5-year cull to the Administration for its report and recommendation.

Action 3: Initial Research

The DNR has stated that Livonia would be approved for the required permits for a cull. This decision is based on traffic data supplied by the LPD.

The City Attorney believes our current ordinance allows for a government agency (e.g., the USDA) to perform the cull within the city limits with permission from the Administration. However, a private organization (e.g., White Buffalo) performing the task would require a change in city ordinance.

Demand for these services has gone up significantly over the past few years. We would not be able to engage either the private or public option for the winter of 2024/25, but would be able to for 2025/26 or future years, with a better chance of success if we engage neighboring communities in the effort.

The DNR has agreed to develop a plan for municipal use in engaging in culls/hunts which should be available by March 2025. While initial reports are information-dense, they contain no actionable items nor direction in plan development. The 2025 Michigan DNR report should be a “road map” for urban deer management, giving clear direction and timelines.

Action 4: Engagement of the USDA

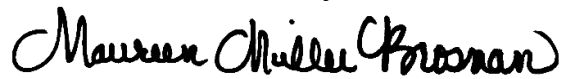
Members of the Administration, including LPD and DPW representatives, met with the USDA on 12/11/2024 to discuss options and timelines for a cull or deer population management program.

- **Findings:** There are a number of potential options:
 - **Deer Cull – Private:** After discussing the situation with White Buffalo, the regional leader in this type of work, we've assessed that a cull would cost approximately \$600 per deer. This cost includes baiting, sharpshooting and processing of the deer. Assuming 120 deer (based on number of dead/injured deer in 2023), that would add up to \$72,000. In order to find a more accurate count of deer to solidify this target number, we'd pay between \$7,000-10,000. It's possible to reduce this cost by partnering with neighboring Farmington Hills and Southfield.
 - **Deer Fertility Control – Private:** White Buffalo also offers the option of fertility control via surgical sterilization. The costs range from \$500-1500 per deer, adding a significant cost burden with this program, likely well over \$100,000. Further, the DNR does not generally grant permits for such activities, citing the lack of results in long-term studies.
 - **Deer Cull – USDA:** The USDA costs are subsidized making a single cull cost between \$15,000-20,000. Per the DNR, this wouldn't require an aerial deer count because we're paying by the engagement rather than by the deer. Representatives from both Farmington Hills and Southfield believe they'll be able to engage in these activities at the next available timeframe (USDA is estimating Winter 2026). Partnering with these communities could drive prices down by decreasing overhead for the USDA.
 - **Regional Conservation Partnership – USDA/Neighboring Communities:** Due to heightened demand, the USDA is developing a new program wherein several neighboring communities could "share" a full-time Biologist and Field Tech. These USDA employees would manage deer counts, schedule culls and dispose of dead/injured deer. They'd also help manage all other human/wildlife interactions throughout the cities (geese, coyotes, turkeys, etc.). Grant opportunities could expand this activity to multiple ecological studies and usable data for the city. The USDA estimates the cost for this would be \$75,000-100,000 per municipality per year. This approach seems to take into account long-term management of the deer population while adding additional benefit to the city, including reducing the burden of deer disposal on the DPW by nearly \$5,000 (assuming 30 deer disposals at \$150 is cost per disposal in labor and equipment). That savings to the DPW, however, does not make up the significant cost difference between the regional partnership and the single cull.

Recommendation:

Council requested information regarding the possibility of a cull and the costs associated with such activity. It would appear that a single cull, in tandem with neighboring communities, could occur for \$15,000-20,000 as early as January of 2026. The Administration would recommend waiting for the full report from the DNR before making a final decision while engaging with neighboring communities who are making efforts toward the same outcome.

Sincerely,

A handwritten signature in black ink that reads "Maureen Miller Brosnan". The signature is written in a cursive, flowing style.

Maureen Miller Brosnan
Mayor



LETTER TO THE LIVONIA CITY COUNCIL

Finance
June 24, 2025

MEETING DATE

Regular Meeting
July 21, 2025

PRESENTED BY

AGENDA ITEM

b. Communication from the Department of Finance, dated June 24, 2025, re: forwarding Quarterly Investment Report for the City of Livonia for the quarter ending February 28, 2025.

BACKGROUND DETAILS

Public Act 213 of 2007 requires that a quarterly written report shall be provided to the governing body regarding the investment of public funds. Attached for Council's information is a summary of investments for the City of Livonia as of February 28, 2025. All investments are in compliance with the City's Investment Policy and Michigan Public Act 20.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

We respectfully request that City Council receive and file this report.

ATTACHMENTS

1. 2025 Quarterly Investments - 1st Quarter

APPROVED BY

Handwritten signature of Debra A. Lichtenberg in cursive.

Debra Peck Lichtenberg, CPA, Finance Director

Date: June 24, 2025

Handwritten signature of Maureen Miller Brosnan in cursive.

Maureen Miller Brosnan, Mayor

Date: June 30, 2025

CERTIFICATES OF DEPOSIT & TERM SECURITIES HELD

**As of
February 28, 2025**

DATE OF PURCHASE	CERTIFICATE HELD AT	PRINCIPAL AMOUNT	DATE OF MATURITY
11/06/24	PFM GovMIC	2,000,000.00	03/04/25
11/12/24	INDEPENDENT	1,000,000.00	03/11/25
11/13/24	PFM GovMIC	1,000,000.00	03/11/25
12/04/24	PFM GovMIC	4,000,000.00	03/18/25
12/11/24	PFM GovMIC	1,000,000.00	03/25/25
12/18/24	PFM GovMIC	1,000,000.00	04/01/25
12/24/24	PFM GovMIC	2,000,000.00	04/08/25
12/31/24	PFM GovMIC	1,000,000.00	04/15/25
01/08/25	PFM GovMIC	2,000,000.00	04/22/25
01/07/25	FLAGSTAR	2,000,000.00	04/22/25
01/15/25	PFM GovMIC	1,000,000.00	04/29/25
01/22/25	PFM GovMIC	1,000,000.00	05/06/25
01/29/25	PFM GovMIC	5,000,000.00	05/13/25
02/03/25	FLAGSTAR	2,000,000.00	05/20/25
02/12/25	PFM GovMIC	6,000,000.00	05/27/25
02/19/25	PFM GovMIC	1,000,000.00	06/03/25
02/26/25	PFM GovMIC	6,000,000.00	06/10/25

39,000,000.00

**SCHEDULE OF POOLED CASH HELD
AS OF
February 28, 2025**

02/28/25	Comerica Bank	Money Mkt, Pooled, etc.	68,450,887.09
02/28/25	Flagstar	Money Market	92,507.06
02/28/25	GovMic	PFM Asset Management	16,537,143.99
			<u>85,080,538.14</u>

**SCHEDULE OF U.S. TREASURY AND AGENCY
SECURITIES HELD**

DATE OF PURCHASE	DESCRIPTION	MATURITY DATE	HISTORICAL COST
01/28/21	#275 - FNMA 3135GACA7	04/15/25	1,124,212.50
07/02/21	#280 - STATE OF MI 594612BD4	05/15/27	1,140,682.20
04/27/22	#288 - USA Treasury 9128284F4	03/31/25	996,097.10
06/30/22	#290 - USA Treasury 91282CEU1	06/15/25	1,088,616.97
09/09/22	#291 - USA Treasury 9128285J5	10/31/25	1,133,247.99
11/16/22	#294 - FHLB 3130AJZ36	08/27/25	1,349,223.00
12/09/22	#295 - FHLB 3130ALGJ7	03/23/26	832,328.25
01/17/23	#296 - FFCB 3133EN6A3	01/13/26	659,615.22
02/23/23	#298 - FFCB 3133EPBJ3	02/23/26	1,123,526.25
03/10/23	#299 - USA Treasury 91282CGA3	12/15/25	1,026,879.28
05/02/23	#304 - USA Treasury 912828U24	11/15/26	1,083,429.63
05/16/23	#305 - FHLMC 3134GW5P7	10/27/25	1,056,676.35
06/30/23	#306 - USA Treasury 91282CEW7	06/30/27	1,160,066.52
10/27/23	#308 - FNMA 3135G05Y5	10/08/27	1,064,771.25
10/31/23	#309 - USA Treasury 91282CGP0	02/29/28	1,123,119.51
12/08/23	#310 - FFCB 3133EPK79	12/07/26	799,442.40
01/26/24	#311 - USA Treasury 91282CJN2	11/30/28	1,217,207.14
02/05/24	#312 - USA Treasury 91282CHQ7	07/31/28	1,153,867.13
05/02/24	#313 - FFCB 3133ERDH1	04/30/29	790,323.90
05/13/24	#314 - USA Treasury 91282CJW2	01/31/29	980,433.04
06/26/24	#315 - FFCB 3133ERGL9	06/07/28	801,360.00
07/08/24	#316 - USA Treasury 91282CKT7	05/31/29	622,377.26
08/01/24	#317 - FFCB 3133ERKX8	07/12/29	615,056.90
08/01/24	#318 - USA Treasury 9128283F5	11/15/27	565,572.32
09/30/24	#319 - FHLB 3130ATHW0	09/10/27	589,273.62
09/30/24	#320 - USA Treasury 91282CFJ5	08/31/29	588,400.45
10/31/24	#321 - FHLB 3130ATHX8	09/14/29	675,881.55
10/31/24	#322 - FFCB 3133ERAX9	04/12/28	561,959.70
11/29/24	#323 - USA Treasury 91282CHM6	07/15/26	752,580.64
11/29/24	#324 - USA Treasury 91282CJF9	10/31/28	779,061.92
12/20/24	#325 - USA Treasury 91282CKJ9	04/15/27	702,709.38
12/23/24	#326 - USA Treasury 91282CMB4	12/15/27	694,889.06
12/31/24	#327 - USA Treasury 91282CKK6	04/30/26	513,986.08
12/31/24	#328 - USA Treasury 91282CJC6	10/15/26	513,029.83
01/09/25	#329 - FHLB 3130AMYV8	06/30/26	480,070.00
01/19/25	#330 - FHLB 3130ATUT2	12/29/29	800,441.60
02/25/25	#331 - FFCB 3133ERZ46	01/28/28	750,898.50
02/26/25	#332 - FNMA 3136GABN8	02/26/29	750,802.50
02/28/25	SECURITIES - TOTAL		32,662,116.95
02/28/25	SECURITIES - POOLED FUND		<u>57,707.12</u>
			<u>32,719,824.07</u>



LETTER TO THE LIVONIA CITY COUNCIL

Clerk
July 8, 2025

MEETING DATE

R072125

PRESENTED BY

AGENDA ITEM

c. Communication received in the Office of the City Clerk, dated June 5, 2025, forwarding the 2025 Tax Rate Request (Form L-4029), from the Charter County of Wayne, Michigan, regarding the collection of the district's taxes.

BACKGROUND DETAILS

2025 Tax Rate Request Form L-4029 on behalf of the Charter County of Wayne, Michigan, for the continuation of the collection of the district's taxes.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

R&F

ATTACHMENTS

1. R072125, 2025 Tax Rate Charter County of Wayne

APPROVED BY

Lori Miller, MiPMC Level 2, CMC, City Clerk

Date: July 09, 2025

2025 Tax Rate Request (This form must be completed and submitted on or before September 30, 2025)

MILLAGE REQUEST REPORT TO COUNTY BOARD OF COMMISSIONERS

This form is issued under authority of MCL Sections 211.24e, 211.34 and 211.34d. Filing is mandatory; Penalty applies.

Carefully read the instructions on page 2.

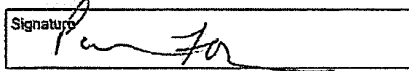
County(ies) Where the Local Government Unit Levies Taxes Wayne County	2025 Taxable Value of ALL Properties in the Unit as of 05-27-2025 \$58,606,783,551 ad valorem; \$58,285,616,917 ad valorem minus renaissance zones
Local Government Unit Requesting Millage Levy Charter County of Wayne, Michigan	For LOCAL School Districts: 2025 Taxable Value excluding Principal Residence, Qualified Agricultural, Qualified Forest, Industrial Personal and Commercial Personal Properties.

This form must be completed for each unit of government for which a property tax is levied. Penalty for non-filing is provided under MCL Sec 211.119. The following tax rates have been authorized for levy on the 2025 tax roll. 2025 taxable value: \$57,993,983,063 ad valorem minus renaissance zones, MCL 211.7d housing, and disabled veterans' exemptions (L-4028/L-4028 IC total)

(1) Source	(2) Purpose of Millage	(3) Date of Election	(4) Original Millage Authorized by Election Charter, etc.	(5) ** 2024 Millage Rate Permanently Reduced by MCL 211.34d "Headlee"	(6) 2025 Current Year "Headlee" Millage Reduction Fraction	(7) 2025 Millage Rate Permanently Reduced by MCL 211.34d "Headlee"	(8) Sec. 211.34 Truth in Assessing or Equalization Millage Rollback Fraction	(9) Maximum Allowable Millage Levy *	(10) Millage Requested to be Levied July 1	(11) Millage Requested to be Levied Dec. 1	(12) Expiration Date of Millage Authorized
Wayne County Charter, Section 5.181	Charter Operating	11/3/1981	6.0700	5.5913	0.9948 ✓	5.5622	1.0000	5.5622	5.5622 ✓	0.0000	N/A
Public Act 214 of 1899	Veterans' Relief Fund Operating	9/23/1899	0.1000	0.0363	0.9948 ✓	0.0361	1.0000	0.0361	0.0000	0.0361	N/A
Approved Extra-Voted	Jails Operating (Levy 4 of 10)	8/2/2022	0.9358	0.9327	0.9948 ✓	0.9278	1.0000	0.9278	0.0000	0.9278	TY 2031
Approved Extra-Voted	General Operating (Levy 6 of 10)	8/4/2020	0.9529	0.9432	0.9948 ✓	0.9382	1.0000	0.9382	0.0000	0.9382	TY 2029
Approved Extra-Voted	Parks Operating (Levy 5 of 5)	8/4/2020	0.2459	0.2433	0.9948 ✓	0.2420	1.0000	0.2420	0.0000	0.2420	TY 2025

Prepared by Scott T. Vandemergel, MMAO (4)	Telephone Number (313) 224-2329	Title of Preparer Dir. of Assessment & Equalization	Date 5/15/2025
--	---	---	--------------------------

CERTIFICATION: As the representatives for the local government unit named above, we certify that these requested tax levy rates have been reduced, if necessary to comply with the state constitution (Article 9, Section 31), and that the requested levy rates have also been reduced, if necessary, to comply with MCL Sections 211.24a, 211.34 and, for LOCAL school districts which levy a Supplemental (Hold Harmless) Millage, 380.1211(3).

☒ Clerk	Signature 	Print Name Pamela Fordham, Esq., Acting Clerk	Date 6/5/2025
☐ Secretary			
☒ Chairperson	Signature 	Print Name Alisha R. Bell, Commission Chair	Date 6/5/2025
☐ President			

* Under Truth in Taxation, MCL Section 211.24e, the governing body may decide to levy a rate which will not exceed the maximum authorized rate allowed in column 9. The requirements of MCL 211.24e must be met prior to levying an operating levy which is larger than the base tax rate but not larger than the rate in column 9.

** **IMPORTANT:** See instructions on page 2 regarding where to find the millage rate used in column (5).

Loc: mills instr	
Total Rate and	
For Ag., Pers	
For	0.036100 +
	0.938200 +
For	0.002
	0.974300 *

Wayne County



LETTER TO THE LIVONIA CITY COUNCIL

Clerk
July 8, 2025

MEETING DATE

R072125

PRESENTED BY

Lori Miller, MiPMC Level 2, CMC, City Clerk

AGENDA ITEM

d. Communication received in the Office of the City Clerk, dated May 22, 2025, forwarding the 2025 Tax Rate Request (Form L-4029), from the Clarenceville School District, regarding the collection of the district's taxes.

BACKGROUND DETAILS

2025 Tax Rate Request Form L-4029 approved by the Clarenceville School Board, on behalf of the Clarenceville School District, for the continuation of the collection of the district's taxes.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

R&F

ATTACHMENTS

1. R072125, 2025 Tax Rate Clarenceville

APPROVED BY

Lori Miller, MiPMC Level 2, CMC, City Clerk

Date: July 09, 2025

2025 Tax Rate Request (This form must be completed and submitted on or before September 30, 2025)

MILLAGE REQUEST REPORT TO COUNTY BOARD OF COMMISSIONERS

This form is issued under authority of MCL Sections 211.24e, 211.34 and 211.34d. Filing is mandatory. Penalty applies.

Carefully read the instructions on page 2.

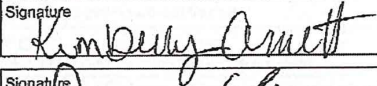
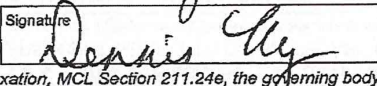
County(ies) Where the Local Government Unit Levies Taxes OAKLAND/WAYNE	2025 Taxable Value of ALL Properties in the Unit as of 05-27-2025 \$425,731,189
Local Government Unit Requesting Millage Levy CLARENCEVILLE SCHOOL DISTRICT	For LOCAL School Districts: 2025 Taxable Value excluding Principal Residences, Qualified Agricultural, Qualified Forest, Industrial Personal and Commercial Personal Properties. \$179,483,546

This form must be completed for each unit of government for which a property tax is levied. Penalty for non-filing is provided under MCL Sec 211.119. The following tax rates have been authorized for levy on the 2025 tax roll.

(1) Source	(2) Purpose of Millage	(3) Date of Election	(4) Original Millage Authorized by Election Charter, etc.	(5) ** 2024 Millage Rate Permanently Reduced by MCL 211.34d "Headlee"	(6) 2025 Current Year "Headlee" Millage Reduction Fraction	(7) 2025 Millage Rate Permanently Reduced by MCL 211.34d "Headlee"	(8) Sec. 211.34 Truth in Assessing or Equalization Millage Rollback Fraction	(9) Maximum Allowable Millage Levy *	(10) Millage Requested to be Levied July 1	(11) Millage Requested to be Levied Dec. 1	(12) Expiration Date of Millage Authorized
VOTED	OPERATING NON-HOME	8/14/2015	19.0000	18.0224	.9870 ✓	17.7881	1.0000	17.7881	17.7881	0	06/2026
	SINKING FUND										
VOTED	ALL PROPERTIES	5/03/2016	4.5000	4.1809	.9873 ✓	4.1278	1.0000	4.1278	4.1278	0	06/2026

Prepared by DAVID G BERGERON	Telephone Number (248) 919-0253	Title of Preparer ASSISTANT SUPERINTENDENT	Date 05/22/2025
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CERTIFICATION: As the representatives for the local government unit named above, we certify that these requested tax levy rates have been reduced, if necessary to comply with the state constitution (Article 9, Section 31), and that the requested levy rates have also been reduced, if necessary, to comply with MCL Sections 211.24e, 211.34 and, for LOCAL school districts which levy a Supplemental (Hold Harmless) Millage, 380.1211(3).

☐ Clerk	Signature 	Print Name KIMBERLY ARNETT	Date 05/22/2025
☒ Secretary			
☐ Chairperson	Signature 	Print Name DENNIS MEYERS	Date 05/22/2025
☒ President			

* Under Truth in Taxation, MCL Section 211.24e, the governing body may decide to levy a rate which will not exceed the maximum authorized rate allowed in column 9. The requirements of MCL 211.24e must be met prior to levying an operating levy which is larger than the base tax rate but not larger than the rate in column 9.

** **IMPORTANT:** See instructions on page 2 regarding where to find the millage rate used in column (5).

Local School District Use Only: Complete if requesting millage to be levied. See STC Bulletin 2 of 2025 for instructions on completing this section.

Total School District Operating Rates to be Levied (HH/Supp and NH Oper ONLY)	Rate
For Principal Residence, Qualified Ag., Qualified Forest and Industrial Personal	0.0000
For Commercial Personal	5.7881
For all Other	17.7881



LETTER TO THE LIVONIA CITY COUNCIL

Clerk
July 8, 2025

MEETING DATE

R072125

PRESENTED BY

AGENDA ITEM

e. Communication received in the Office of the City Clerk, dated June 23, 2025, forwarding the 2025 Tax Rate Request (Form L-4029), from the Livonia Public Schools, regarding the collection of the district's taxes.

BACKGROUND DETAILS

2025 Tax Rate Request Form L-4029 on behalf of the Livonia Public Schools to continue collecting the district's taxes.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

R&F

ATTACHMENTS

1. R072125, 2025 Tax Rate LPS

APPROVED BY

Lori Miller, MiPMC Level 2, CMC, City Clerk

Date: July 09, 2025

2025 Tax Rate Request (This form must be completed and submitted on or before September 30, 2025)**MILLAGE REQUEST REPORT TO COUNTY BOARD OF COMMISSIONERS**

Carefully read the instructions on page 2.

This form is issued under authority of MCL Sections 211.24e, 211.34 and 211.34d. Filing is mandatory; Penalty applies.

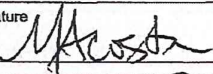
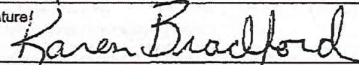
County(ies) Where the Local Government Unit Levies Taxes Wayne County	2025 Taxable Value of ALL Properties in the Unit as of 05-27-2025 \$6,002,110,373
Local Government Unit Requesting Millage Levy Livonia Public Schools School District	For LOCAL School Districts: 2025 Taxable Value excluding Principal Residence, Qualified Agricultural, Qualified Forest, Industrial Personal and Commercial Personal Properties. \$1,739,836,617

This form must be completed for each unit of government for which a property tax is levied. Penalty for non-filing is provided under MCL Sec 211.119. The following tax rates have been authorized for levy on the 2025 tax roll.

(1) Source	(2) Purpose of Millage	(3) Date of Election	(4) Original Millage Authorized by Election Charter, etc.	(5)** 2024 Millage Rate Permanently Reduced by MCL 211.34d "Headlee"	(6) 2025 Current Year "Headlee" Millage Reduction Fraction	(7) 2025 Millage Rate Permanently Reduced by MCL 211.34d "Headlee"	(8) Sec. 211.34 Truth in Assessing or Equalization Millage Rollback Fraction	(9) Maximum Allowable Millage Levy *	(10) Millage Requested to be Levied July 1	(11) Millage Requested to be Levied Dec. 1	(12) Expiration Date of Millage Authorized
Voted	Oper-NH	08/2019	18.3866	18.3553	1.0000	18.3553	1.0000	18.0000	9.0000	9.0000	TY2030
Voted	Sinking-ALL	08/2019	1.6000	1.5740	0.9952	1.5664	1.0000	1.5664	0.7832	0.7832	TY2029
Voted	Debt	N/A	UNLMTD	N/A	N/A	N/A	N/A	N/A	2.05	2.05	N/A

Prepared by Alison Smith	Telephone Number (734) 744-2506	Title of Preparer Chief Financial Officer	Date 06/23/2025
------------------------------------	---	---	---------------------------

CERTIFICATION: As the representatives for the local government unit named above, we certify that these requested tax levy rates have been reduced, if necessary to comply with the state constitution (Article 9, Section 31), and that the requested levy rates have also been reduced, if necessary, to comply with MCL Sections 211.24e, 211.34 and, for LOCAL school districts which levy a Supplemental (Hold Harmless) Millage, 380.1211(3).

☐ Clerk	Signature	Print Name	Date
☒ Secretary		Madeline Acosta	06/23/2025
☐ Chairperson	Signature	Print Name	Date
☒ President		Karen Bradford	06/23/2025

* Under Truth in Taxation, MCL Section 211.24e, the governing body may decide to levy a rate which will not exceed the maximum authorized rate allowed in column 9. The requirements of MCL 211.24e must be met prior to levying an operating levy which is larger than the base tax rate but not larger than the rate in column 9.

** **IMPORTANT:** See instructions on page 2 regarding where to find the millage rate used in column (5).

Local School District Use Only. Complete if requesting millage to be levied. See STC Bulletin 2 of 2025 for instructions on completing this section.

Total School District Operating Rates to be Levied (HH/Supp and NH Oper ONLY)	Rate
For Principal Residence, Qualified Ag., Qualified Forest and Industrial Personal	0.0000
For Commercial Personal	6.0000
For all Other	18.0000



LETTER TO THE LIVONIA CITY COUNCIL

Clerk
July 8, 2025

MEETING DATE

R072125

PRESENTED BY

AGENDA ITEM

f. Communication received in the Office of the City Clerk, dated June 3, 2025, forwarding the 2025 Tax Rate Request (Form L-4029), from the Oakland Schools ISD, regarding the collection of the district's taxes.

BACKGROUND DETAILS

2025 Tax Rate Request Form L-4029 as approved by the Oakland Schools ISD for the continuation of the district's tax collection.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

R&F

ATTACHMENTS

1. R072125, 2025 Tax Rate Oakland Schools ISD

APPROVED BY

A handwritten signature in black ink that reads "Lori Miller".

Lori Miller, MiPMC Level 2, CMC, City Clerk

Date: July 09, 2025

2025 Tax Rate Request (This form must be completed and submitted on or before September 30, 2025)

MILLAGE REQUEST REPORT TO COUNTY BOARD OF COMMISSIONERS

This form is issued under authority of MCL Sections 211.24e, 211.34 and 211.34d. Filing is mandatory; Penalty applies.

Carefully read the instructions on page 2.

County(ies) Where the Local Government Unit Levies Taxes Oakland	2025 Taxable Value of ALL Properties in the Unit as of 05-27-2025 \$83,835,006,814
Local Government Unit Requesting Millage Levy Oakland Schools ISD	For LOCAL School Districts: 2025 Taxable Value excluding Principal Residence, Qualified Agricultural, Qualified Forest, Industrial Personal and Commercial Personal Properties.

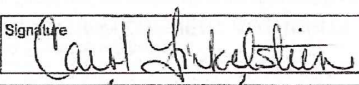
This form must be completed for each unit of government for which a property tax is levied. Penalty for non-filing is provided under MCL Sec 211.119. The following tax rates have been authorized for levy on the 2025 tax roll.

(1) Source	(2) Purpose of Millage	(3) Date of Election	(4) Original Millage Authorized by Election Charter, etc.	(5) ** 2024 Millage Rate Permanently Reduced by MCL 211.34d "Headlee"	(6) 2025 Current Year "Headlee" Millage Reduction Fraction	(7) 2025 Millage Rate Permanently Reduced by MCL 211.34d "Headlee"	(8) Sec. 211.34 Truth in Assessing or Equalization Millage Rollback Fraction	(9) Maximum Allowable Millage Levy *	(10) Millage Requested to be Levied July 1	(11) Millage Requested to be Levied Dec. 1	(12) Expiration Date of Millage Authorized
VOTED	SPEC ED	6/14/54	0.5000	0.3752	0.9941 ✓	0.3729	1.0	0.3729	0.3729	0.0000	
VOTED	SPEC ED	6/14/65	0.5000	0.3752	0.9941 ✓	0.3729	1.0	0.3729	0.3729	0.0000	
VOTED	VOC ED	6/12/67	0.5000	0.3752	0.9941 ✓	0.3729	1.0	0.3729	0.3729	0.0000	
ALLOCATE	GEN ED	8/19/78	0.2500	0.1874	0.9941 ✓	0.1862	1.0	0.1862	0.1862	0.0000	
VOTED	SPEC ED	10/7/85	0.7500	0.5632	0.9941 ✓	0.5598	1.0	0.5598	0.5598	0.0000	
VOTED	SPEC ED	9/25/01	1.1704	1.0701	0.9941 ✓	1.0637	1.0	1.0637	1.0637	0.0000	
VOTED	VOC ED	9/25/01	0.2279	0.2078	0.9941 ✓	0.2065	1.0	0.2065	0.2065	0.0000	
TOTAL								3.1349	3.1349 ✓	0.0000	

Prepared by Michelle Saunders	Telephone Number (248) 209-2112	Title of Preparer Exec. Director of Financial Serv.	Date 06/03/2025
---	---	---	---------------------------

CERTIFICATION: As the representatives for the local government unit named above, we certify that these requested tax levy rates have been reduced, if necessary to comply with the state constitution (Article 9, Section 31), and that the requested levy rates have also been reduced, if necessary, to comply with MCL Sections 211.24e, 211.34 and, for LOCAL school districts which levy a Supplemental (Hold Harmless) Millage, 380.1211(3).

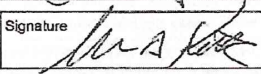
☐ Clerk
☒ Secretary

Signature


Print Name
Carol Finkelstein

Date
06/03/2025

☐ Chairperson
☒ President

Signature


Print Name
Mr. Marc Katz

Date
06/03/2025

* Under Truth in Taxation, MCL Section 211.24e, the governing body may decide to levy a rate which will not exceed the maximum authorized rate allowed in column 9. The requirements of MCL 211.24e must be met prior to levying an operating levy which is larger than the base tax rate but not larger than the rate in column 9.

** **IMPORTANT:** See instructions on page 2 regarding where to find the millage rate used in column (5).

Local School District Use Only. Complete if requesting millage to be levied. See STC Bulletin 2 of 2025 for instructions on completing this section.

Total School District Operating Rates to be Levied (HH/Supp and NH Oper ONLY)	Rate
For Principal Residence, Qualified Ag., Qualified Forest and Industrial Personal	
For Commercial Personal	
For all Other	



LETTER TO THE LIVONIA CITY COUNCIL

Clerk
July 8, 2025

MEETING DATE

R072125

PRESENTED BY

AGENDA ITEM

g. Communication received in the Office of the City Clerk, dated June 18, 2025, forwarding the 2025 Tax Rate Request (Form L-4029), from the Plymouth Road Development Authority, regarding the collection of the district's taxes.

BACKGROUND DETAILS

2025 Tax Rate Request form as approved by the Plymouth Road Development Authority for the continuation of the collection of the taxes as approved by the PRDA.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

R&F

ATTACHMENTS

1. R072125, 2025 Tax Rate PRDA

APPROVED BY

Lori Miller, MiPMC Level 2, CMC, City Clerk

Date: July 09, 2025

2025 Tax Rate Request (This form must be completed and submitted on or before September 30, 2025)

MILLAGE REQUEST REPORT TO COUNTY BOARD OF COMMISSIONERS

This form is issued under authority of MCL Sections 211.24e, 211.34 and 211.34d. Filing is mandatory; Penalty applies.

Carefully read the instructions on page 2.

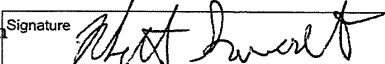
County(ies) Where the Local Government Unit Levies Taxes WAYNE	2025 Taxable Value of ALL Properties in the Unit as of 05-27-2025 459,754,755
Local Government Unit Requesting Millage Levy PLYMOUTH ROAD DEVELOPMENT AUTHORITY	For LOCAL School Districts: 2025 Taxable Value excluding Principal Residence, Qualified Agricultural, Qualified Forest, Industrial Personal and Commercial Personal Properties.

This form must be completed for each unit of government for which a property tax is levied. Penalty for non-filing is provided under MCL Sec 211.119. The following tax rates have been authorized for levy on the 2025 tax roll.

(1) Source	(2) Purpose of Millage	(3) Date of Election	(4) Original Millage Authorized by Election Charter, etc.	(5) ** 2024 Millage Rate Permanently Reduced by MCL 211.34d "Headlee"	(6) 2025 Current Year "Headlee" Millage Reduction Fraction	(7) 2025 Millage Rate Permanently Reduced by MCL 211.34d "Headlee"	(8) Sec. 211.34 Truth in Assessing or Equalization Millage Rollback Fraction	(9) Maximum Allowable Millage Levy *	(10) Millage Requested to be Levied July 1	(11) Millage Requested to be Levied Dec. 1	(12) Expiration Date of Millage Authorized
2018 PA 57	DDA	N/A	2.0000	2.0000	1.0000	2.0000	1.0000	2.0000	2.0000	-	N/A

Prepared by DEBRA A. LICHTENBERG	Telephone Number (734) 466-2260	Title of Preparer TREASURER	Date 06/18/2025
--	---	---------------------------------------	---------------------------

CERTIFICATION: As the representatives for the local government unit named above, we certify that these requested tax levy rates have been reduced, if necessary to comply with the state constitution (Article 9, Section 31), and that the requested levy rates have also been reduced, if necessary, to comply with MCL Sections 211.24e, 211.34 and, for LOCAL school districts which levy a Supplemental (Hold Harmless) Millage, 380.1211(3).

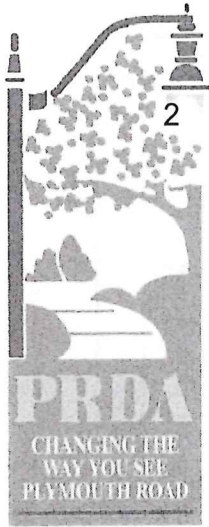
☒ Vice Chairperson	Signature 	Print Name RHETT GRONEVELT	Date 06/18/2025
☐ Secretary			
☒ Chairperson	Signature 	Print Name DANIEL LAIBLE	Date 6/18/2025
☐ President			

* Under Truth in Taxation, MCL Section 211.24e, the governing body may decide to levy a rate which will not exceed the maximum authorized rate allowed in column 9. The requirements of MCL 211.24e must be met prior to levying an operating levy which is larger than the base tax rate but not larger than the rate in column 9.

**** IMPORTANT:** See instructions on page 2 regarding where to find the millage rate used in column (5).

Local School District Use Only. Complete if requesting millage to be levied. See STC Bulletin 2 of 2025 for instructions on completing this section.

Total School District Operating Rates to be Levied (HH/Supp and NH Oper ONLY)	Rate
For Principal Residence, Qualified Ag., Qualified Forest and Industrial Personal	
For Commercial Personal	
For all Other	



June 20, 2025

Ms. Cathy Garrett, County Clerk
Wayne County Clerk
2 Woodward Avenue, Suite 502
Detroit, Michigan 48226

RE: 2025 Tax Request - Form L-4029

Dear Ms. Garrett:

I have enclosed for your information a completed copy of the Form L-4029 for the Plymouth Road Development Authority for the 2025 tax year.

Should you have any questions, please feel free to contact me.

Sincerely,

Debra Peck Lichtenberg
Treasurer

DAL:db
Attachment

cc: (via email) Lori Miller, City Clerk, Linda Gosselin, City Assessor,
Susan Nash, City Treasurer, Finance Director File, Scott T.
Vandemergel, Equalization Dept. (svandemergel@waynecounty.com),
Connie Kumpula, Chief Accountant, Tom Hritz, Accountant III, Mark
Taormina

PLYMOUTH
ROAD
DEVELOPMENT
AUTHORITY

33000
Civic Center Drive
Livonia, Michigan
48154

(734) 466-2290



LETTER TO THE LIVONIA CITY COUNCIL

Clerk
July 8, 2025

MEETING DATE

R072125

PRESENTED BY

AGENDA ITEM

h. Communication received in the Office of the City Clerk, dated May 28, 2025, forwarding the 2025 Tax Rate Request (Form L-4029), from Schoolcraft College, regarding the collection of the taxes.

BACKGROUND DETAILS

2025 Tax Rate Request form submitted by Schoolcraft College dated May 28, 2025, approved by the Board of Trustees, for the collection of the taxes on behalf of Schoolcraft College.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

R&F

ATTACHMENTS

1. R072125, 2025 Tax Rate Schoolcraft

APPROVED BY

Lori Miller, MiPMC Level 2, CMC, City Clerk

Date: July 09, 2025

2025 Tax Rate Request (This form must be completed and submitted on or before September 30, 2025)

MILLAGE REQUEST REPORT TO COUNTY BOARD OF COMMISSIONERS

Carefully read the instructions on page 2.

This form is issued under authority of MCL Sections 211.24e, 211.34 and 211.34d. Filing is mandatory; Penalty applies.

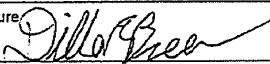
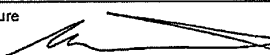
County(ies) Where the Local Government Unit Levies Taxes Wayne, Oakland, Washtenaw Three County Total	2025 Taxable Value of ALL Properties in the Unit as of 05-27-2025 \$20,132,783,260
Local Government Unit Requesting Millage Levy Schoolcraft College	For LOCAL School Districts: 2025 Taxable Value excluding Principal Residence, Qualified Agricultural, Qualified Forest, Industrial Personal and Commercial Personal Properties.

This form must be completed for each unit of government for which a property tax is levied. Penalty for non-filing is provided under MCL Sec 211.119. The following tax rates have been authorized for levy on the 2025 tax roll.

(1) Source	(2) Purpose of Millage	(3) Date of Election	(4) Original Millage Authorized by Election Charter, etc.	(5) ** 2024 Millage Rate Permanently Reduced by MCL 211.34d "Headlee"	(6) 2025 Current Year "Headlee" Millage Reduction Fraction	(7) 2025 Millage Rate Permanently Reduced by MCL 211.34d "Headlee"	(8) Sec. 211.34 Truth in Assessing or Equalization Millage Rollback Fraction	(9) Maximum Allowable Millage Levy *	(10) Millage Requested to be Levied July 1	(11) Millage Requested to be Levied Dec. 1	(12) Expiration Date of Millage Authorized
Charter	Operating	6/1962	1.0000	0.7782	1.0000	0.7782	1.0000	0.7782	0.7782	0.0000	None
Charter	Operating	6/1966	0.7700	0.5990	1.0000	0.5990	1.0000	0.5990	0.5990	0.0000	None
Charter	Operating	3/1986	0.5000	0.3890	1.0000	0.3890	1.0000	0.3890	0.3890	0.0000	None
Voted	Operating	11/2018	0.5038	0.5038	1.0000	0.5038	1.0000	0.5038	0.5038	0.0000	TY 2028
								Total	2.2700	0.0000	

Prepared by Jon Lamb, CPA	Telephone Number (734) 462-4603	Title of Preparer Chief Financial Officer	Date 05/28/2025
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CERTIFICATION: As the representatives for the local government unit named above, we certify that these requested tax levy rates have been reduced, if necessary to comply with the state constitution (Article 9, Section 31), and that the requested levy rates have also been reduced, if necessary, to comply with MCL Sections 211.24e, 211.34 and, for LOCAL school districts which levy a Supplemental (Hold Harmless) Millage, 380.1211(3).

☐ Clerk	Signature 	Print Name Dillon E. Breen	Date 05/28/2025
☒ Secretary			
☒ Chairperson	Signature 	Print Name Brett M. Gierak	Date 05/28/2025
☐ President			

* Under Truth in Taxation, MCL Section 211.24e, the governing body may decide to levy a rate which will not exceed the maximum authorized rate allowed in column 9. The requirements of MCL 211.24e must be met prior to levying an operating levy which is larger than the base tax rate but not larger than the rate in column 9.

** **IMPORTANT:** See instructions on page 2 regarding where to find the millage rate used in column (5).

Local School District Use Only. Complete if requesting millage to be levied. See STC Bulletin 2 of 2025 for instructions on completing this section.

Total School District Operating Rates to be Levied (HH/Supp and NH Oper ONLY)	Rate
For Principal Residence, Qualified Ag., Qualified Forest and Industrial Personal	
For Commercial Personal	
For all Other	

SCHOOLCRAFT COLLEGE

18600 Haggerty Road, Livonia, Michigan 48152-2696

AGENDA ITEM NO. 10-a

MOTION NO. 2025-45

REGULAR MEETING
Board of Trustees
May 28, 2025

SUBJECT: Consider Adoption of Tax Levy for 2025-26

BRIEF: The Summer Tax Collection tax rate certification deadline is June 1. The early deadline allows the local taxing units the necessary time to spread the roll, print the bills, and mail them to the taxpayers prior to July 1, the levy date.

As of this writing, the 2025 Taxable Values used to establish the District's Tax Levy will be certified by Wayne, Oakland, and Washtenaw counties, subject to final equalization by the State Tax Commission. Therefore, the Taxable Values used are those which are to be approved by the counties and submitted to the State Tax Commission for their approval on June 10, 2025. If the State Tax Commission adopts Taxable Values different than the ones used for this resolution, adjustments will be made at the Board meeting on June 25, 2025.

NOTE: Signatures of both Chairperson and Secretary are required on the tax documents.

Presented to the Board with the recommendation of the President.

RECOMMENDATION:

BE IT RESOLVED that the Board of Trustees approves the following resolution for the adoption of the Tax Levy for 2025-26.

ROLL CALL VOTE REQUIRED

SCHOOLCRAFT COMMUNITY COLLEGE DISTRICT
Livonia, Michigan

2025 TAX LEVY

MOTION NO. 2025-45

Moved by Carol Strom

Seconded by Dillon Breen

WHEREAS, authorization has been granted by a vote of the electors of the Schoolcraft Community College District to levy two and twenty-seven hundredth mills in taxes two dollars and twenty-seven cents (\$2.27) per thousand on the Taxable Value of the College District for all purposes; and

WHEREAS, the Board of Trustees has carefully examined the financial circumstances of the College District for the 2025-26 fiscal year, including estimated expenditures, estimated revenues, and Taxable Value of property located within the District and determined that the levy of an equal millage rate will be necessary for the sound management and operation of the College District; and

WHEREAS, the Board of Trustees has complete authority to establish that a maximum of 2.27 mills be levied for 2025 operating purposes from within its authorized millage rate; and

WHEREAS, pursuant to "Section 31 of Article IX" of the *1963 State Constitution* and implementing legislation, and pursuant to the successful 2018 ballot initiative, such authorized millage will not be affected by Millage Reduction Fractions for 10 years unless future renewal is passed by the voters through a ballot initiative in tax year 2028; and

WHEREAS, the Board of Trustees complied with the *Truth in Budgeting Act* in the month of May 2025 and may now authorize a maximum total levy of 2.2700 mills for 2025-26 operating purposes, within its present authorized millage rate; and

WHEREAS, the Board of Trustees has determined that the ordinary expenses of operating, maintaining, and managing the Schoolcraft Community College District and its programs will require, in addition to other monies, the expenditure of all funds raised by levy of the aforesaid 2.2700 mills; and

WHEREAS, the Taxable Value of the Schoolcraft Community College District is twenty billion, one hundred thirty-two million, seven hundred eighty-three thousand, two hundred sixty dollars (\$20,132,783,260), apportioned among the several Counties of the District as follows:

\$ 18,490,872,701 for Wayne County
\$ 1,527,624,360 for Oakland County
\$ 114,286,199 for Washtenaw County

NOW THEREFORE BE IT RESOLVED

- THAT this Board of Trustees does hereby reaffirm its determination that the ordinary expenses of operating, maintaining, and managing the Schoolcraft Community College District and its programs will require, in addition to other monies, the expenditure of all funds raised by levy of the aforesaid 2.2700 mills; and
- THAT the 2025 Tax Levy, for all purposes of Schoolcraft Community College District, be set at two dollars and twenty-seven cents (\$2.2700) per thousand dollars of Taxable Value of the area comprising the District, making a tax yield of forty-five million, seven hundred one thousand, four hundred eighteen dollars (\$45,701,418); and
- THAT this Board of Trustees hereby certifies that the foregoing requested millage has been reduced in compliance with "Section 31 of Article IX" of the *1963 State Constitution* and that it is also in compliance with "Act No. 2" of the *Public Acts of 1968*; and
- THAT the 2025 Tax Levy be levied and collected as a Summer Tax, in compliance with "Section 144" of the *Community College Act*, as amended by "Act No. 368," *Public Acts of Michigan 1982*.

ROLL CALL

VOTE: AYE: Breen, Broderick, Gierak, Gilligan, Jaafar, Strom

NAY: _____

ABSTAIN: _____

ABSENT: Little

MOTION CARRIED X MOTION DEFEATED _____



LETTER TO THE LIVONIA CITY COUNCIL

Clerk
July 8, 2025

MEETING DATE

R072125

PRESENTED BY

AGENDA ITEM

i. Communication received in the Office of the City Clerk, dated April 1, 2025, forwarding the 2025 Tax Rate Request (Form L-4029), from the State of Michigan, regarding the collection of the district's taxes.

BACKGROUND DETAILS

2025 Tax Rate Request Form L-4029 on behalf of the State of Michigan to continue collecting the district's taxes.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

R&F

ATTACHMENTS

1. R072125, 2025 Tax Rate State of Michigan State Education

APPROVED BY

Lori Miller, MiPMC Level 2, CMC, City Clerk

Date: July 09, 2025



GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF TREASURY
LANSING

RACHAEL EUBANKS
STATE TREASURER

April 1, 2025

**NOTICE TO TOWNSHIP CLERKS, CITY CLERKS, AND COUNTY CLERKS
OF CERTIFICATION OF STATE EDUCATION TAX LEVY
PURSUANT TO ACT 331 OF 1993**

Section 5 of the State Education Tax Act, 1993 PA 331, MCL 211.905 (5), requires the State Treasurer to certify the levy of the State Education Tax.

This Notice constitutes certification of the levy of the State Education Tax and authorizes collection of the State Education Tax at the rate of six mills for the 2025 tax year as a summer levy.

Local clerks are requested to spread the six mills on the rolls for the summer levy.

A handwritten signature in black ink, appearing to read "Rachael Eubanks", written over a horizontal line.

Rachael Eubanks
State Treasurer



LETTER TO THE LIVONIA CITY COUNCIL

Clerk
July 8, 2025

MEETING DATE

R072125

PRESENTED BY

AGENDA ITEM

j. Communication received in the Office of the City Clerk, dated June 11, 2025, forwarding the 2025 Tax Rate Request (Form L-4029), from the Wayne County Regional Educational Service Agency (RESA), regarding the collection of the district's taxes.

BACKGROUND DETAILS

Tax rate request for Wayne County Regional Educational Service Agency for the 2025 School Year.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

R&F

ATTACHMENTS

1. R072125, 2025 Tax Rate Wayne RESA

APPROVED BY

A handwritten signature in black ink that reads "Lori Miller".

Lori Miller, MiPMC Level 2, CMC, City Clerk

Date: July 09, 2025

2025 Tax Rate Request (This form must be completed and submitted on or before September 30, 2025)

MILLAGE REQUEST REPORT TO COUNTY BOARD OF COMMISSIONERS

This form is issued under authority of MCL Sections 211.24e, 211.34 and 211.34d. Filing is mandatory; Penalty applies.

Carefully read the instructions on page 2.

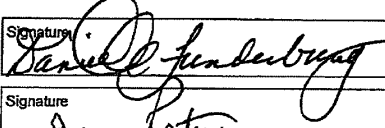
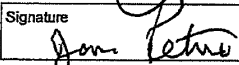
County(ies) Where the Local Government Unit Levies Taxes Wayne	2025 Taxable Value of ALL Properties in the Unit as of 05-27-2025 All Properties 57,440,124,789; Enhancement TV only 57,761,291,423
Local Government Unit Requesting Millage Levy Wayne RESA	For LOCAL School Districts: 2025 Taxable Value excluding Principal Residence, Qualified Agricultural, Qualified Forest, Industrial Personal and Commercial Personal Properties.

This form must be completed for each unit of government for which a property tax is levied. Penalty for non-filing is provided under MCL Sec 211.119. The following tax rates have been authorized for levy on the 2025 tax roll.

(1) Source	(2) Purpose of Millage	(3) Date of Election	(4) Original Millage Authorized by Election Charter, etc.	(5) ** 2024 Millage Rate Permanently Reduced by MCL 211.34d "Headlee"	(6) 2025 Current Year "Headlee" Millage Reduction Fraction	(7) 2025 Millage Rate Permanently Reduced by MCL 211.34d "Headlee"	(8) Sec. 211.34 Truth in Assessing or Equalization Millage Rollback Fraction	(9) Maximum Allowable Millage Levy *	(10) Millage Requested to be Levied July 1	(11) Millage Requested to be Levied Dec. 1	(12) Expiration Date of Millage Authorized
Allocated	Operating	N/A	0.0300	0.0274	0.9946	0.0272	1.0000	0.0272	*Tax Rate	Resolution	N/A
Allocated	Operating	N/A	0.0700	0.0678	0.9946	0.0674	1.0000	0.0674	*Tax Rate	Resolution	N/A
Charter	Special Ed	N/A	1.0000	0.9203	0.9946	0.9153	1.0000	0.9153	*Tax Rate	Resolution	N/A
Charter	Special Ed	N/A	1.0000	0.9280	0.9946	0.9229	1.0000	0.9229	*Tax Rate	Resolution	N/A
Charter	Special Ed	N/A	1.5000	1.4845	0.9946	1.4764	1.0000	1.4764	*Tax Rate	Resolution	N/A
Voted	Enhancement	11/5/24	2.0000	1.9812	0.9948	1.9708	1.0000	1.9708	*Tax Rate	Resolution	12/31/33
								5.380			

Prepared by Drew McMechan	Telephone Number (734) 334-1564	Title of Preparer Asst. Supt. of Financial Services	Date 06/11/2025
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CERTIFICATION: As the representatives for the local government unit named above, we certify that these requested tax levy rates have been reduced, if necessary to comply with the state constitution (Article 9, Section 31), and that the requested levy rates have also been reduced, if necessary, to comply with MCL Sections 211.24e, 211.34 and, for LOCAL school districts which levy a Supplemental (Hold Harmless) Millage, 380.1211(3).

☐ Clerk ☒ Secretary ☐ Chairperson ☒ President	Signature 	Print Name Danielle Funderburg	Date 06/11/2025
	Signature 	Print Name James Petrie	Date 06/11/2025

* Under Truth in Taxation, MCL Section 211.24e, the governing body may decide to levy a rate which will not exceed the maximum authorized rate allowed in column 9. The requirements of MCL 211.24e must be met prior to levying an operating levy which is larger than the base tax rate but not larger than the rate in column 9.

** **IMPORTANT:** See instructions on page 2 regarding where to find the millage rate used in column (5).

Local School District Use Only: Complete if requesting millage to be levied: See STC Bulletin 2 of 2025 for instructions on completing this section.

Total School District Operating Rates to be Levied (HH/Supp and NH Oper ONLY)	Rate
For Principal Residence, Qualified Ag., Qualified Forest and Industrial Personal	
For Commercial Personal	
For all Other	

**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD JULY 07, 2025**

1.

Meeting was called to order at 9:08 p.m. by Vice President Ptashnik. Present: Scott Morgan, Laura Toy, Rob Donovic, Carrie Budzinski, Lynda Scheel, and Vice President Ptashnik. Absent: Council President McCullough.

Elected and appointed officials present: Carter Fisher, City Attorney; Lori L. Miller, City Clerk; Mark Taormina, City Planner and Economic Development Director; Dave Lear, Assistant City Engineer.

Councilmember Toy led the meeting with the Pledge of Allegiance.

1. BLOCK PARTY: Russ Facione, re: to be held Saturday, August 2, 2025, from 1:00 p.m. to 9:00 p.m., on Arden Street between Elmira Street and Plymouth Road.

Russ Facione, Arden St., proposed a block party for neighbors to celebrate the birthday of the neighborhood.

Motion was made by Councilmember Morgan to put the matter on the Consent portion of the next Regular Agenda.

DIRECTION:

APPROVING

CONSENT



LETTER TO THE LIVONIA CITY COUNCIL

1.

Clerk
June 20, 2025

MEETING DATE

S070725/R072125

PRESENTED BY

AGENDA ITEM

BLOCK PARTY: Russ Facione, re: to be held Saturday, August 2, 2025, from 1:00 p.m. to 9:00 p.m., on Arden Street between Elmira Street and Plymouth Road.

BACKGROUND DETAILS

Celebrating the 100-year birthday of Old Rosedale with approximately 50 people.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

Approve as submitted.

ATTACHMENTS

1. S070725, Block Party, Russ Facione, Arden

APPROVED BY

Doris DeMarco, Deputy Clerk

Date: June 20, 2025

**REQUEST FOR NOISE WAIVER BLOCK PARTY and/or
BARRICADING OF CITY STREETS**

Send to: Livonia City Council, c/o City Clerk, 33000 Civic Center Drive, Livonia, MI 48154-3097
or hand deliver to the City Clerk's Office at least 8 weeks prior to the planned event

PLEASE PRINT

Date of Application: 6/18/25 Date to appear at a Council Meeting: _____

Name of Neighborhood Representative: Ross Facione

Address (please include zip code): 11317 Arden St. Livonia 48150

Telephone Number with area code: Home: (Cell) 248-867-4748 Office: N/A

Email: Rossfacione@gmail.com

Please circle what is being requested – **“BLOCK PARTY”** and/or **“STREET BARRICADING”**

<u>8/2/25</u>	<u>N/A</u>	<u>1pm - 9pm</u>
Date of Block Party and/or Barricading	Rain Date	Start/end time of Block Party and/or Barricading End time is no later than 10:00 p.m.

Location of Block Party and/or Barricading: (Be specific. Indicate which streets and between which boundaries).

1ST Block of Arden (Between Plymouth RD + Elmira)

Type of Event: Briefly (Describe activities planned. Music, barbecue, games, etc.) _____

100 yr Birthday of neighborhood + our house (11317 Arden)
celebrating with a block party

How many barricades are you requesting (max. 10)? _____

Approximate Number Attending: 50+ people

Date of Council Approval/Denial: _____

Council Resolution Number: _____

RECEIVED
OFFICE OF THE CITY CLERK
2025 JUN 18 PM 1:36

**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD JULY 07, 2025**

2.

Meeting was called to order at 9:08 p.m. by Vice President Ptashnik. Present: Scott Morgan, Laura Toy, Rob Donovic, Carrie Budzinski, Lynda Scheel, and Vice President Ptashnik. Absent: Council President McCullough.

Elected and appointed officials present: Carter Fisher, City Attorney; Lori L. Miller, City Clerk; Mark Taormina, City Planner and Economic Development Director; Dave Lear, Assistant City Engineer.

Councilmember Toy led the meeting with the Pledge of Allegiance.

4. BLOCK PARTY: Alex Quint, re: to be held Saturday, September 6, 2025, from 3:00 p.m. to 10:00 p.m., between 9912 and 10000 Fairfield Street.

Alex Quint, 11401 Fairfield, asked for approval regarding their 3rd annual block party.

Motion was made by Councilmember Scheel to put the matter on the Consent portion of the next Regular Agenda.

DIRECTION:

APPROVING

CONSENT



LETTER TO THE LIVONIA CITY COUNCIL

4.

Clerk
June 11, 2025

MEETING DATE

S070725

PRESENTED BY

AGENDA ITEM

BLOCK PARTY: Alex Quint, re: to be held Saturday, September 6, 2025, from 3:00 p.m. to 10:00 p.m., between 9912 and 10000 Fairfield Street.

BACKGROUND DETAILS

This annual block party will have lawn games, socializing, and music. They are requesting four (4) barricades and anticipate 40 - 50 people.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

Approve as submitted.

ATTACHMENTS

1. S070725, Block Party, Alex Quint

APPROVED BY

Doris DeMarco, Deputy Clerk

Date: June 11, 2025

**REQUEST FOR NOISE WAIVER BLOCK PARTY and/or
BARRICADING OF CITY STREETS**

Send to: Livonia City Council, c/o City Clerk, 33000 Civic Center Drive, Livonia, MI 48154-3097
or hand deliver to the City Clerk's Office at least 8 weeks prior to the planned event

PLEASE PRINT

Date of Application: 6/9/2025 Date to appear at a Council Meeting: _____

Name of Neighborhood Representative: Alex Quint

Address (please include zip code): 11401 Fairfield, Livonia, MI 48150

Telephone Number with area code: Home: 734-612-0519 Office: _____

Email: aqunt11@yahoo.com

Please circle what is being requested - "BLOCK PARTY" and/or "STREET BARRICADING"

<u>9/6/2025</u>	<u>N/A</u>	<u>3:00 PM - 10:00 PM</u>
Date of Block Party and/or Barricading	Rain Date	Start/end time of Block Party and/or Barricading End time is no later than 10:00 p.m.

Location of Block Party and/or Barricading: (Be specific. Indicate which streets and between which boundaries).

On Fairfield street, between houses 9912 and 10000

Type of Event: Briefly (Describe activities planned. Music, barbecue, games, etc.) Annual block party
tables, chairs, lawn games, music, socializing.

How many barricades are you requesting (max. 10)? 4

Approximate Number Attending: 40 - 50

Date of Council Approval/Denial: _____

Council Resolution Number: _____

2025 JUN -9 PM 3:10

RECEIVED
OFFICE OF THE CITY CLERK

**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD JULY 07, 2025**

3.

Meeting was called to order at 9:08 p.m. by Vice President Ptashnik. Present: Scott Morgan, Laura Toy, Rob Donovic, Carrie Budzinski, Lynda Scheel, and Vice President Ptashnik. Absent: Council President McCullough.

Elected and appointed officials present: Carter Fisher, City Attorney; Lori L. Miller, City Clerk; Mark Taormina, City Planner and Economic Development Director; Dave Lear, Assistant City Engineer.

Councilmember Toy led the meeting with the Pledge of Allegiance.

6. WAIVER PETITION: Planning Commission, re: Petition 2025-05-02-10 submitted by Tiseo Architects requesting waiver use approval to build an addition to the existing veterinary hospital at 27492 Five Mile Road, located on the northeast corner of Five Mile Road and Foch Street in the Southeast $\frac{1}{4}$ of Section 13.

Ben Tiseo, 19815 Farmington, mentioned the neighboring building was acquired and a passageway will be built between the buildings.

Mark Taormina, Planning and Economic Development Director, noted the waiver approval is for an expansion to the facility, the addition is not very large, and the parking will be increased.

Motion was made by Councilmember Toy to put the matter on the Consent portion of the next Regular Agenda.

DIRECTION:

APPROVING

CONSENT



LETTER TO THE LIVONIA CITY COUNCIL

6.

Planning
June 16, 2025

MEETING DATE

S070725/R072125

PRESENTED BY

Mark Taormina, Planning and Economic Development Director

AGENDA ITEM

WAIVER PETITION: Planning Commission, re: Petition 2025-05-02-10, submitted by Tiseo Architects, requesting waiver use approval to build an addition to the existing veterinary hospital at 27492 Five Mile Road, located on the northeast corner of Five Mile Road and Foch Street in the Southeast ¼ of Section 13.

BACKGROUND DETAILS

June 16, 2025

Honorable Members of the City Council
City of Livonia, Michigan

Re: Petition 2025-05-02-10 – True Heal Veterinary

Dear Council Members:

At the 1,231st Meeting held by the Livonia City Planning Commission on June 10, 2025, the following resolution was adopted:

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

#06-28-2025 RESOLVED, That the City Planning Commission does hereby recommend to the City Council that Petition 2025-05-02-10 submitted by Tiseo Architects requesting waiver use approval pursuant to Section 6.59 of the Livonia Zoning Ordinance, as amended, to build an addition to the existing veterinary hospital at 27492 Five Mile Road, located on the northeast corner of Five Mile Road and Foch Street in the Southeast ¼ of Section 13, be approved subject to the following conditions:

1. That the Site Plan identified as Sheet No. P1, Floor Plan identified as Sheet No. P2 and Elevation Plan identified as Sheet No. P3 dated May 05, 2025, prepared by Tiseo Architects, Inc., is hereby approved and shall be adhered to.
2. That the operation of the subject use shall not include the overnight boarding or care of animals.

3. That there shall be no outside dumpster located on the site, and all trash must be contained within the building except on the day trash is scheduled for removal.
4. That all animal remains, medical and animal waste shall be properly disposed of.
5. That adequate soundproofing shall be installed to the extent necessary to insure the elimination of all noise from the building.
6. That the use of open or outdoor runways, kennels or pens are prohibited.
7. That only conforming signage is approved with this petition, and any additional signage shall be separately submitted for review and approval by the Zoning Board of Appeals.
8. That no LED lightband or exposed neon shall be permitted on this site including, but not limited to, the building or around the windows.
9. The two separate parcels shall be combined into a single lot.
10. That the specific plan referenced in this approving resolution shall be submitted to the Inspection Department at the time the building permits are applied for; and
11. Pursuant to Section 13.13 of the Livonia Zoning Ordinance, as amended, this approval is valid for a period of one year only from the date of approval by City Council, and unless a building permit is obtained, this approval shall be null and void at the expiration of said period.

ATTACHMENTS

1. 2025-05-02-10_E-COUNCIL Pkt

APPROVED BY



Mark Taormina, Planning and Economic Development Director

Date: June 16, 2025



Maureen Miller Brosnan, Mayor

Date: June 20, 2025

Petition 2025-05-02-10 submitted by Tiseo Architects requesting waiver use approval pursuant to Section 6.59 of the Livonia Zoning Ordinance, as amended, to build an addition to the existing veterinary hospital at 27492 Five Mile Road, located on the northeast corner of Five Mile Road and Foch Street in the Southeast $\frac{1}{4}$ of Section 13.

**CITY OF LIVONIA, MICHIGAN
APPLICATION FOR WAIVER USE APPROVAL**

All applications must be presented in triplicate to the City Clerk, 33000 Civic Center Drive, Livonia, MI 48154-3097. Applications must include property owner's name, address and notarized signature.

For filing fee see below for computation

Date Filed: 5-6-25 Petition 2025-05-02-10
Site Address: 27492 Five Mile Rd Sidwell 052-01-0038-001 Zoning of Property C-1
Requesting Approval To Operate a Veterinarian Clinic
Applicant: Benedetto Tiseo, FAIA, NCARB Business/Company: Tiseo Architects, Inc.
Applicant's Address: 19815 Farmington Rd City: Livonia State: MI Zip Code: 48152
Applicant's Phone # (248) 888-1300 Applicant's Email ben@tiseo.com
Contact Person: Benedetto Tiseo, FAIA, NCARB Business/Company: Tiseo Architects, Inc.
Contact's Address: 19815 Farmington Rd City: Livonia State: MI Zip Code: 48152
Contact's Phone # (248) 888-1300 Contact's Email ben@tiseo.com

Please provide the following information:

- 1) **Site Plan** showing:
 - property dimensions, including road right-of-way & building setback lines
 - foot print of building(s), including dimensions & square footage
 - all easements, protective walls, sidewalks & existing trees
 - any significant topographic features (existing or proposed)
 - parking layout, including type of surface material, sizes of spaces & aisles
 - method used in calculating parking requirement
 - location of light standards servicing parking lot & cutout showing type & height
 - location of trash receptacle, including description of screening
 - location of signs
- 2) **Detailed Landscape Plan** including:
 - listing or labeling of all planted materials as to type and size
 - areas to be fully irrigated
 - percentage of landscaping provided (15% of total site required)
- 3) **Building Elevation Plan** depicting:
 - architectural quality
 - wall section & detail plan - exterior building materials must be labeled (i.e. brick, thin brick, E.F.I.S.)
 - all visible rooftop mechanical equipment and how they will be screened
- 4) **General Floor Plan** showing:
 - floor layout
 - entrances & exits
 - restaurants are required to illustrate seating arrangement & capacity
- 5) **One (1) set of reduced plans** (i.e. site, landscape, elevation, floor), a maximum 11" x 17" in size, or digital file in a .pdf format either on CD or emailed to planning@livonia.gov
- 6) **Legal Description** of the property to be considered (Clearly Printed)
- 7) Two (2) completed application forms & two (2) sets of full-size drawings

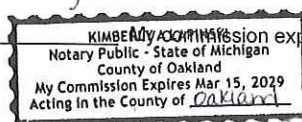
You are invited and encouraged to review your proposal with the Planning Department staff. Only one set of preliminary drawings will be necessary for this analysis.

FEE COMPUTATION	\$700.00	(\$400 publication fee plus \$300 base review fee) plus
<u>23</u> sq. ft. of new construction x \$20.00 per 1,000 sq. ft. or \$30 per lot or unit for residential construction.		
	Total Amount Due	\$ <u>720</u>

Owner of Property: Zanro LLC
Owner's Address: 35230 Braxton Ct City: Farmington Hills State: MI Zip Code: 48335
Owner's Phone # (734) 476-9199 Owner's Email mariaPETRENKO414@gmail.com
Signature of Owner: [Signature] Print Name: MARIA PETRENKO

Subscribed and sworn to before me, a Notary Public in and for the County of Oakland State of Michigan
on this 2nd day of May 20 25.

Signature of Notary [Signature]
Acting in the County of Oakland



UNAPPROVED MINUTES

1

MINUTES OF THE 1,231st PUBLIC HEARINGS AND REGULAR MEETING HELD BY THE CITY PLANNING COMMISSION OF THE CITY OF LIVONIA

On Tuesday, June 10, 2025, the City Planning Commission of the City of Livonia held its 1,230th Public Hearing and Regular Meetings in the Livonia City Hall, 33000 Civic Center Drive, Livonia, Michigan.

Mr. Ian Wilshaw, Chairman, called the meeting to order at 7 p.m.

Members present: David Bongero Sam Caramagno Glen Long
Peter Ventura Ian Wilshaw

Members absent: Wafa Dinaro Patrick Droze

Mr. Jacob Uhazie, Planning Director, and Stephanie Reece, Program Supervisor, were also present.

Chairman Wilshaw informed the audience that if a petition on tonight's agenda involves a rezoning request, this Commission makes a recommendation to the City Council who, in turn, will hold its own public hearing and make the final determination as to whether a petition is approved or denied. The Planning Commission holds the only public hearing on a request for preliminary plat and/or vacating petition. The Commission's recommendation is forwarded to the City Council for the final determination as to whether a plat is accepted or rejected. If a petition requesting a waiver of use or site plan approval is denied tonight, the petitioner has ten days in which to appeal the decision, in writing, to the City Council. Resolutions adopted by the City Planning Commission become effective seven (7) days after the date of adoption. The Planning Commission and the professional staff have reviewed each of these petitions upon their filing. The staff has furnished the Commission with both approving and denying resolutions, which the Commission may, or may not, use depending on the outcome of the proceedings tonight.

ITEM #1 PETITION 2025-05-02-10

Tru-Heal Veterinary

Mr. Caramagno, Secretary, announced the first item on the agenda, Petition 2025-05-02-10 submitted by Tiseo Architects requesting waiver use approval pursuant to Section 6.59 of the Livonia Zoning Ordinance, as amended, to build an addition to the existing veterinary hospital at 27492 Five Mile Road, located on the northeast corner of Five Mile Road and Foch Street in the Southeast ¼ of Section 13.

Mr. Uhazie: Thank you, Mr. Chairman. This petition is to add an addition connecting the two existing buildings, expanding the existing veterinary hospital at 27492 Five Mile Road. The parcel is located at the northeast corner of Five Mile Road and Foch Street. The current zoning is C-1 (Local business) with the rear of the property being P (Parking). To the west of the petition site across Foch Street is a vacant property also zoned C-1, and P. To the north is residential property zoned N1 (Neighborhood). To the east is a vacant property also zoned NM1 (Neighborhood Multi Family). South across Five Mile are residential properties zoned N2 to the southwest and N1 to the southeast. The petition involves connecting these two buildings. The two adjoining properties are under common ownership now. Together, the properties combined are about 0.54 acres with approximately 147 feet of frontage along Five Mile Road by 160 feet along Foch Street. The property at 27495 Five Mile Road is the building to the east, and consists of 3,113 square feet of commercial space currently occupied by the True Health Veterinary Hospital. 27492 Five Mile Road is the building to the west and consists of a 1,737 square foot vacant commercial space that was formerly used as a realtor building. The waiver petition is to expand the use of the Veterinary Clinic under Section 6.59 of the zoning ordinance. The waiver would also expand the use to both buildings and the addition between them. The addition would add 23 square feet between the buildings. Once complete, the building would have a combined area of 4,873 square feet. Parking will largely remain unchanged, with the exception that three parking spots would be removed and restriped to prevent parking vehicles from having to back up into the entrance ways. The site will have a total of 25 parking spaces and is only required to have eight by the zoning ordinance. The petition application did not include any changes to signage or landscaping on the site. Elevation plans show a 12 ½ foot tall addition that would match the existing white brick with metal cap on the top of the veterinary office. And the two buildings are at different elevations, and to account for this, the floor plan shows a ramp located inside the addition that slopes downward towards the realtor building to the west. With that, Mr. Chairman, I can read out the departmental correspondence.

Mr. Wilshaw: Yes, please.

Mr. Uhazie: The first item is from the Engineering Division, dated May 21, 2025, which reads as follows: *"In accordance with your request,*

the Engineering Division has reviewed the above referenced petition. We have no objections to the proposed waiver use at this time, but would like to note the following items: 1. The subject parcels are assigned the addresses of #27488 and #27492 Five Mile Road. Should additional addresses be needed, the Owner will need to contact this Department once approvals have been obtained. 2. The existing parcel is currently serviced by public sanitary sewer and water main, as well as private storm sewer. Utility information, specifically storm detention calculations, have not been submitted with the drawings, but we do not believe there will be any adverse effects from the proposed project. 3. After the subject parcel has transferred ownership, the developer shall contact the Assessor's office to combine the parcels prior to receiving final permit close-out." The letter is signed by David W. Lear, P.E., Assistant City Engineer. The next letter is from the Livonia Fire & Rescue Division, dated May 14, 2025, which reads as follows: "This office has reviewed the site plan submitted in connection with a request to construct an addition to an existing commercial building on property located at the above referenced address. We have no objections to this proposal. A further detailed plan review will take place when this division receives an official plan set." The letter is signed by Brian Kukla, Fire Marshal. The next letter is from the Division of Police, dated May 12, 2025, which reads as follows: "I have reviewed the plans in connection with the petition. I have no objections to the proposal." The letter is signed by Paul Walters, Sergeant, Traffic Bureau. The next letter is from the Inspection Department, dated June 5, 2025, which reads as follows: "Pursuant to your request, the above-referenced Petition has been reviewed. 1. These two separate parcels must be combined before the proposed addition can connect the two buildings. This Department has no further objections to this Petition." The letter is signed by Jerome Hanna, Director of Inspection. The next letter is from the Treasurer's Department, dated June 5, 2025, which reads as follows: "All taxes have been paid on this property." The letter is signed by Susie Nash, Treasurer. That is the extent of the correspondence.

Mr. Wilshaw: Excellent thank you, Mr. Uhazie. Is there any questions for our planning staff?

Mr. Ventura: Jacob, so as I look at these floor plans, it appears that only minor modifications are being made to the interior of the westernmost building.

Mr. Uhazie: Correct.

UNAPPROVED MINUTES

4

- Mr. Ventura: And the eastern building is going to stay exactly the way it is.
- Mr. Uhazie: Yes.
- Mr. Ventura: And do I recall that the public entrance is going to be in the eastern most building, where it is today, and really not any public access...
- Mr. Uhazie: That is my understanding. Most of the public access would be contained to the existing building. I think there would be one or two exam rooms that would also be accessible for additional space, but the vast majority of it would be employees only.
- Mr. Ventura: Okay, and then flipping down to the...if I can do that here, elevations, reason I'm having a hard time doing that. Do I understand that the elevations of the southern elevation of the westernmost building is gonna stay exactly the way it is. We're adding three glass panels to the eastern building.
- Mr. Uhazie: At the addition?
- Mr. Ventura: Pardon?
- Mr. Uhazie: To the addition?
- Mr. Ventura: In front of the Eastern building. Or is that existing?
- Mr. Uhazie: I thought that was existing.
- Ben Tiseo, Tiseo Architects. The two buildings will remain exactly the way it is. The only work will be the three foot, nine inch space between the two, connecting them, and yes, the one point of entry for both buildings will be controlled by the reception area in the easterly building.
- Mr. Ventura: Mr. Wilshaw is going to scold us for being out of order here but thank you.
- Mr. Wilshaw: Thank you for giving the introduction, Mr. Ventura, does that answer your question?
- Mr. Ventura: Yes. Thank you.
- Mr. Wilshaw: Okay, any other questions for staff? All right, now we'll go to the petitioner.

Ben Tiseo, Tiseo Architects, 19815 Farmington Road, Livonia, MI. Again, we're hopeful for support tonight to put another vacant building back on the payroll for the city. I did want to add one note. I know it was missing on our site plan, the existing real estate sign will be removed and some landscaping will be put in this place. I noticed it wasn't stated that on the drawings, but that will be on the construction documents.

Mr. Wilshaw: Appreciate it. Thank you. Is there any questions for our petitioner's representative? And just a note, the owner of the property, the veterinary themselves was at our study meeting, and she was able to answer some questions there, but she's out of town...

Mr. Tiseo: Out of country, actually.

Mr. Wilshaw: For tonight, yes, so you are taking duties as her representative. So, yes, thank you. Thank you. Any questions for petitioner's representative?

Mr. Caramagno: Just probably a simple question. Is there doors between these two buildings that will close, or it's going to be always open between the two>

Mr. Tiseo: It'll be always open. It is actually an extension of a corridor, but we do have a new door that will be in the westerly building that'll prevent the public from going beyond the exam room there.

Mr. Caramagno: Okay, so between the two, there's, that's no fire issue,

Mr. Tiseo: No. Everything is fine.

Mr. Caramagno: Okay, good. Thank you.

Mr. Wilshaw: Thank you. Mr. Caramagno. Any other questions for petitioner? Is there anyone in the audience wishing to speak on this item? Sir, feel free to come forward to our podium. I'll give you a chance to speak. We just ask you for your name and address for our record.

Jonathan Dmytro, 15410 Foch, Livonia, MI. That's just three houses down from there. I just presented a small organization of thoughts for myself. So, thank you for the opportunity to speak tonight. I'm here to express my full support for the zoning ordinance that will allow the expansion of the veterinary office, owned and

operated by my opinion, a remarkable member of community, Ned. Ned is the husband of Mary the owners. Ned is more than just a business owner. He's a living example of what makes Livonia such a special place, grit, heart and a commitment to community. He immigrated to the US from somewhere in Europe. Honestly, I wish I remembered exactly where, but I forget exactly where. He came here chasing love, and although it didn't pan out, he stayed and built something even more meaningful. He was already a trained veterinarian in his home country, and instead of giving up when he arrived here with limited English and no local credentials, he worked tirelessly to get recertified in the US as a vet. That alone says something about his determination and passion for the field. And now he owns and operates a veterinary practice that provides an essential service to our neighborhood, and it's already a thriving business. It's already booked, and everybody and anybody knows about the vets around here. It's not like you can just call and get in that day. So, it's very much needed, especially me, owning lots of dogs and cats. You know, not so much anymore as we get older, but so I'm loving having him there. It's so nice, because I used to have to drive 40 minutes into Canton just because that was the availability for my pets. Before Ned took over the property. The building sat vacant and deteriorating for as far as I can remember, to be honest. Apart from that, the one on the west side where that guy, John, who passed away. And, you know, the community wasn't necessarily too thrilled about what he was doing there. And I know there was a lot of issues either way. You know, nobody really enjoyed what was happening. And the fact that Ned is taking that, you know, wants to do what he wants to do there is, you know, something everybody in our street has totally supported even when I talked to my neighbors, I thought they were coming, and they're like, we go. Why? They're like, why wouldn't you pass it? I'm like, Well, you still got to come and show support if that's what you want to have happen. You know, so surprised they're not here. Anyways, all the neighbors, everybody's for it, and they love it. And he's such a good person. Like I said that one building was deteriorating...those buildings have been deteriorating for years, especially that sign you mentioned, that's going to get taken down with the 1- 800 like quick sell or something. I mean, that has, as far as you guys can probably remember, that sign has been there, and it's just been getting worse and worse. So, I'm so looking forward to just getting it beautiful where it needs to be, the structure next door, the one he's recently acquired and wants to connect to his existing practice was, was in the same shape. Two eyesores, two missed opportunities. But Ned saw

potential where others saw decay, and through hard work and investment, he turned one of those buildings into a vibrant, much needed Veterinary Clinic. Now he's ready to do it again, expand his services, improve our neighborhood and meet the growing demand. It's not just about esthetics or business, it's about someone who genuinely cares. He's the kind of person remembers your pet's name, answers questions after hours and helps families through some of the toughest moments they face. I don't think he's asking for a handout. He's asking for the opportunity to keep investing in our city. He owns both buildings, and he's already proven what he's capable of. All he needs now is the city support to take this next step. I truly believe Livonia is better with Ned and his wife in it. This expansion brings more services, more jobs and more vitality to our area. I urge you to approve the ordinance and support someone who's already given so much to this community. Thank you.

Mr. Wilshaw: Well, thank you. Mr. Dymtro, that was an excellent testimony for the area and for this business. Is there anyone else wishing to speak on this item? I don't see anyone else wishing to speak. Mr. Tiseo, is there anything else that you'd like to say before we make our decision?

Mr. Tiseo: No. Thank you for the kind comments. I know that the owner had left a large corporation that had veterinary services, and frankly, he left because he couldn't give proper care to the animals. That's why he wanted to get his own business.

Mr. Wilshaw: Excellent. Thank you. Well, we appreciate that. Thank you. If there's no further comments from the public, I'm going to close the public hearing, and a motion is in order.

On a motion by Long, seconded by Bongero, and unanimously adopted, it was

#06-28-2025 **RESOLVED**, That the City Planning Commission does hereby recommend to the City Council that Petition 2025-05-02-10 submitted by Tiseo Architects requesting waiver use approval pursuant to Section 6.59 of the Livonia Zoning Ordinance, as amended, to build an addition to the existing veterinary hospital at 27492 Five Mile Road, located on the northeast corner of Five Mile Road and Foch Street in the Southeast ¼ of Section 13, be approved subject to the following conditions:

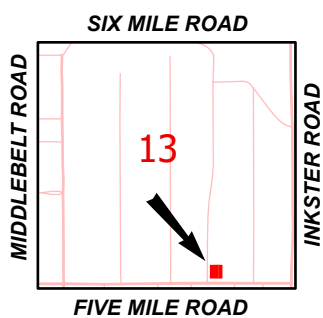
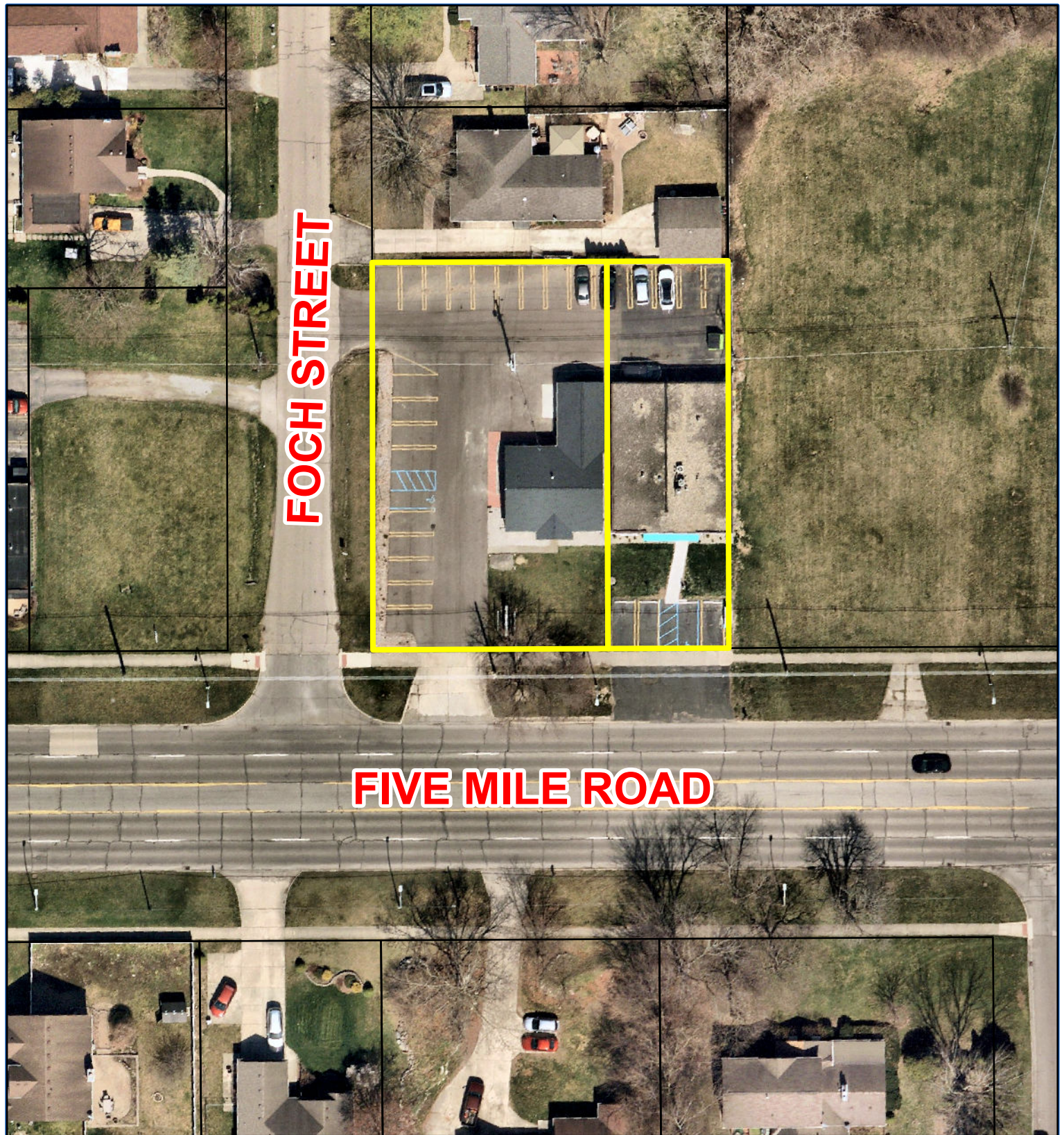
1. That the Site Plan identified as Sheet No. P1, Floor Plan identified as Sheet No. P2 and Elevation Plan identified as Sheet No. P3 dated May 05, 2025, prepared by Tiseo

Architects, Inc., is hereby approved and shall be adhered to.

2. That the operation of the subject use shall not include the overnight boarding or care of animals.
3. That there shall be no outside dumpster located on the site, and all trash must be contained within the building except on the day trash is scheduled for removal.
4. That all animal remains, medical and animal waste shall be properly disposed of.
5. That adequate soundproofing shall be installed to the extent necessary to insure the elimination of all noise from the building.
6. That the use of open or outdoor runways, kennels or pens are prohibited.
7. That only conforming signage is approved with this petition, and any additional signage shall be separately submitted for review and approval by the Zoning Board of Appeals.
8. That no LED lightband or exposed neon shall be permitted on this site including, but not limited to, the building or around the windows.
9. The two separate parcels shall be combined into a single lot.
10. That the specific plan referenced in this approving resolution shall be submitted to the Inspection Department at the time the building permits are applied for; and
11. Pursuant to Section 13.13 of the Livonia Zoning Ordinance, as amended, this approval is valid for a period of one year only from the date of approval by City Council, and unless a building permit is obtained, this approval shall be null and void at the expiration of said period.

Mr. Wilshaw: Is there any discussion?

Mr. Wilshaw, Chairman, declared the motion is carried and the foregoing resolution adopted. It will go on to the City Council with an approving resolution.



Aerial Map

Petition 2025-05-02-10
TrueHeal Veterinary Hospital
27492 Five Mile Road



Not to Scale



City of Livonia
Planning Department

PLANNING COMMISSION STAFF NOTES

PUBLIC HEARING

ITEM 1

Petition 2025-05-02-10 submitted by Tiseo Architects requesting waiver use approval pursuant to Section 6.59 of the Livonia Zoning Ordinance, as amended, to build an addition to the existing veterinary hospital at 27492 Five Mile Road, located on the northeast corner of Five Mile Road and Foch Street in the Southeast ¼ of Section 13.

June 3, 2025 Study Meeting:

Tiseo Architects are seeking waiver use approval to allow for a 23-square-foot, one-story building addition to connect the current building of TrueHeal Veterinary Hospital (3,113 square feet) and the former realty building (1,737 square feet) to the west. The existing buildings will remain the same with no changes to setback or height. Once finished, the building will have a combined area of 4,873 square feet.

The subject property is zoned C-1, Local Business. To the west across Foch Street is a vacant property, also Zoned C-1, Local Business. To the north is a residential property Zoned N-1, Neighborhood District. To the east is a vacant property Zoned NM-1, Neighborhood Multifamily. To the south across Five Mile Road is a residential property Zoned N2, Neighborhood.

Proposed elevations on Sheet No. P3 show the 12.5-foot-tall addition with matching white brick, matching metal cap on top. The two (2) buildings are at different elevations. The existing TrueHeal building is currently 634.31 feet above sea level. The realty building is 634.01 feet above sea level. The floorplan on Sheet P2 shows a ramp inside the addition downward towards the former Realtor building to the left.

There is a 10x25 loading space in the rear. The parking lot will only be re-striped by the entrances so vehicles will not have to back into the entrance way. The petition application did not include any changes to signage or landscaping on the site.

June 10, 2025 Public Hearing Meeting:

Approving Resolution: That this request to expand a veterinary clinic at 27488 Five Mile Road shall be approved subject to the following condition:

1. That the Site Plan identified as Sheet No. P1, Floor Plan identified as Sheet No. P2 and Elevation Plan identified as Sheet No. P3 dated May 05, 2025, prepared by Tiseo Architects, Inc., is hereby approved and shall be adhered to.

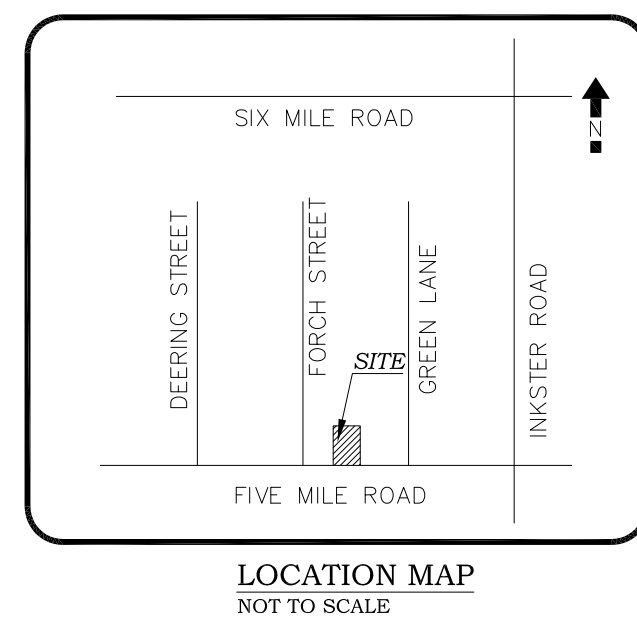
PUBLIC HEARING

ITEM 1 Petition 2025-05-02-10 – TrueHeal Veterinarian Clinic

Page 2

2. That the operation of the subject use shall not include the overnight boarding or care of animals.
3. That there shall be no outside dumpster located on the site, and all trash must be contained within the building except on the day trash is scheduled for removal.
4. That all animal remains, medical and animal waste shall be properly disposed of.
5. That adequate soundproofing shall be installed to the extent necessary to insure the elimination of all noise from the building.
6. That the use of open or outdoor runways, kennels or pens are prohibited.
7. That only conforming signage is approved with this petition, and any additional signage shall be separately submitted for review and approval by the Zoning Board of Appeals.
8. That no LED lightband or exposed neon shall be permitted on this site including, but not limited to, the building or around the windows.
9. The two separate parcels shall be combined into a single lot.
10. That the specific plan referenced in this approving resolution shall be submitted to the Inspection Department at the time the building permits are applied for; and
11. Pursuant to Section 13.13 of the Livonia Zoning Ordinance, as amended, this approval is valid for a period of one year only from the date of approval by City Council, and unless a building permit is obtained, this approval shall be null and void at the expiration of said period.

BOUNDARY, TOPOGRAPHIC AND UTILITIES SURVEY



PROPERTY DESCRIPTION: (AS PROVIDED BY CLIENT)
(WARRANTY DEED L. 51527 P. 648 W.C.R.)

LAND SITUATED IN THE CITY OF LIVONIA, COUNTY OF WAYNE, STATE OF MICHIGAN,
AND MORE PARTICULARLY DESCRIBED AS:

LOT 39, EXCEPT THE NORTH 64 FEET THEREOF, "PARKWAY SUBDIVISION" PART OF THE
S.E. 1/4 OF SECTION 13, TOWN 1 SOUTH, RANGE 9 EAST, LIVONIA TOWNSHIP (NOW CITY
OF LIVONIA), WAYNE COUNTY, MICHIGAN, ACCORDING TO THE PLAT THEREOF AS
RECORDED IN LIBER 88 OF PLATS ON PAGE 67 OF THE WAYNE COUNTY RECORDS.

SUBJECT TO THE EXISTING BUILDING AND USE RESTRICTIONS, EASEMENTS, RIGHT OF
WAYS, AND ZONING ORDINANCES, OF RECORDS, IF ANY.

MORE COMMONLY KNOWN AS:

"EXISTING BUILDING"
27488 FIVE MILE ROAD,
CITY OF LIVONIA,
WAYNE COUNTY, MI 48154

TAX PARCEL NUMBER: 052-01-0039-001

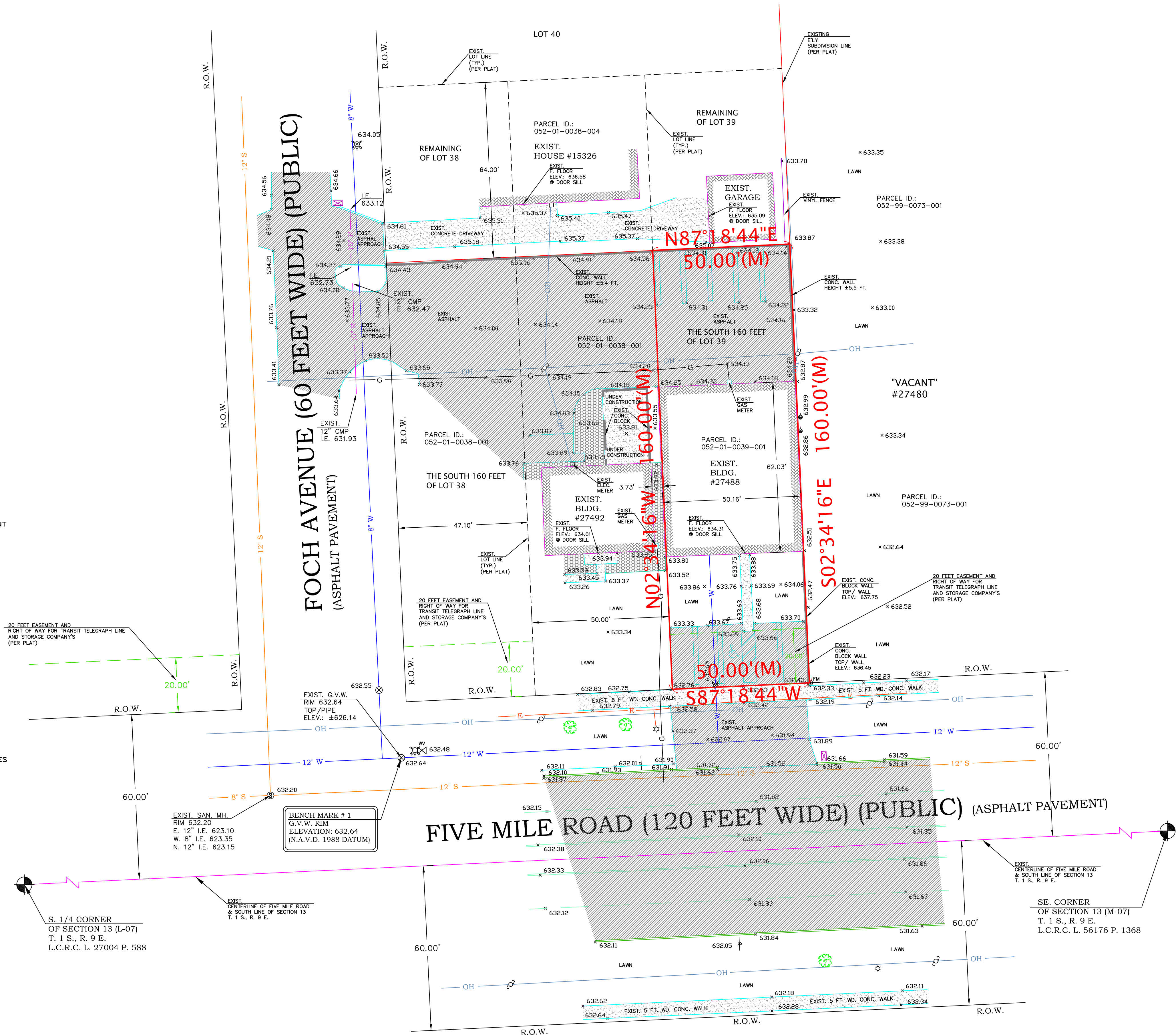
FLOOD HAZARD NOTE:
THIS PROPERTY IS NOT LOCATED WITHIN THE FLOOD HAZARD AREAS
AS INDICATED BY "FIRM" THE FLOOD INSURANCE RATE MAP,
MAP NUMBER 26163C0064E, PANEL 64 OF 575.
COMMUNITY: CITY OF LIVONIA
NUMBER: 260238
PANEL: 0064
SURFIC: E
WAYNE COUNTY, MICHIGAN.
EFFECTIVE DATE: FEBRUARY 2, 2012
AS PREPARED BY THE NATIONAL FLOOD INSURANCE PROGRAM,
FEDERAL EMERGENCY MANAGEMENT AGENCY.

SURVEYOR'S NOTES:
1- SINCE OUR SURVEY WORK DOES NOT INCLUDE A TITLE SEARCH
AT TIME OF SURVEY, THERE MAY BE EASEMENT AND/OR
ENCUMBRANCES UPON THE LAND WHICH ARE NOT SHOWN ON OUR
SURVEY AT THIS TIME.

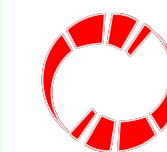
UTILITY NOTES:
ALL UTILITIES DEPICTED HEREON ARE FROM VISIBLE EVIDENCE.
SURVEYOR DID NOT CONTACT SUBSURFACE UTILITY LOCATOR SERVICE.
THE LOCATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS PLAN
ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS
TO THE COMPLETENESS, EXACTNESS OF LOCATION OR ACCURACY THEREOF.
THE CONTRACTOR / OWNER SHALL BE EXCLUSIVELY RESPONSIBLE FOR
DETERMINING THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES AND
PROPOSED UTILITIES CROSSINGS IN THE FIELD PRIOR TO CONSTRUCTION OR
ANY SITE MODIFICATION.

LEGEND OF SYMBOLS & ABBREVIATIONS

	SECTION CORNER
	FOUND CONCRETE MONUMENT
	FIELD MEASUREMENT
	TYPICAL
	MANHOLE
	CONCRETE
	RIGHT-OF-WAY
	FEET
	WIDE
	TYPICAL
	AVENUE
	ELECTRIC
	BUILDING
	EXISTING
	SANITARY
	BOUNDARY LINE
	OVERHEAD ELECTRIC LINES
	SANITARY SEWER
	WATER
	STORM SEWER
	GAS
	UNDERGROUND ELECTRIC LINES
	SIGN
	FIRE HYDRANT
	WATER SHUT-OFF-VALVE
	GAS VALVE
	GATE VALVE & WELL
	SQUARE CATCH BASIN
	ROUND CATCH BASIN
	STORM MANHOLE
	SANITARY SEWER MANHOLE
	TREE
	SPOT ELEVATION
	STEEL POST
	LIGHT POLE
	UTILITY POLE
	GUY WIRE
	MAIL BOX
	ASPHALT PAVEMENT
	CONCRETE SURFACE



ACCURATE SURVEYING AND MAPPING



SEAL:



DATE: MARCH 29, 2022

CLIENT:

TISEO ARCHITECTS, INC.
19815 FARMINGTON ROAD,
LIVONIA, MI 48152
PH.: (248) 888-1300

PROJECT LOCATION:

"EXISTING BUILDING"

27488 FIVE MILE ROAD,
CITY OF LIVONIA,
WAYNE COUNTY,
MI. 48154

PARCEL No.:
052-01-0039-001

SHEET:

BOUNDARY,
TOPOGRAPHIC AND
UTILITIES SURVEY



DATE: REVISION:

DRAWN BY:

DESIGNED BY:

APPROVED BY:

SURVEY DATE:
MARCH 28, 2022

SCALE:

1" = 20'

BOOK #:

B-102

JOB NO.

022-115

SHEET NO.

1 OF 1



KEY PLAN
SCALE: No Scale

VICINITY MAP
SCALE: No Scale

Site/Building Data

Zoning Section 3.10 : C-1 Local Business

Total Site Area:	23,536 Sq Ft	0.54 Acres
27488 5 Mile Rd:	8,000 Sq Ft	
27492 5 Mile Rd:	15,536 Sq Ft	
Section 13.13(6)(i) Landscaping Required 15%:	3,530 Sq Ft	
Open Space Actual:	4,470 Sq Ft	18.99%
Total Building Area:	4,873 Sq Ft	
27488 5 Mile Rd:	3,113 Sq Ft	
Single-Story Bldg Addition:	23 Sq Ft	
27492 5 Mile Rd:	1,737 Sq Ft	

Section 3.10 C-1 Waiver Uses: Veterinary Clinics, Animal Clinics and Animal Hospitals (Section 6.05)

Section 6.59: Veterinary Clinics, Animal Clinics and Animal Hospitals
Districts Permitted: C-1 (1) Current Zoning = C-1 as a Waiver Use
Specified Use: (2) Sole purpose necessary care for sick/diseased household pets - Yes
Attendant: (3) Full time Veterinarian in charge of premises - Yes
Enclosure: (4) No outdoor runways, kennels, or pens. - Confirmed
Disposal of Rubbish: (5) No rubbish and litter to be obnoxious or offensive - Confirmed
Disposal of Rubbish: (5) No harboring of vermin, no noise, confusion and odor on premises - Confirmed
Soundproof: (6) Yes - Existing Masonry Walls.

Section 4.02 Schedule of Regulations C-1 Local Business

Min Lot Area

Minimum - 4,000 Sq Ft Existing = 8,000 Sq Ft (27488 5 Mile Rd)
Existing = 15,536 Sq Ft (27492 5 Mile Rd)

Bldg Height

Max (Stories): 2 Existing = 1
Max (Feet): 35 Existing = 12'-6" & Proposed = 12'-6"

Bldg Setback

Min Front (Feet): 15 Existing = 48' & 50'-5"
Min Side (Feet): 8 Existing = 0'-0" & 3'-9" (Preexisting Nonconforming)
Min Rear (Feet): 8 Existing = 50'

Section 9.05 Minimum Parking Spaces

Veterinary Clinics: 1/200 Sq Ft Use Area	4,873 Sq Ft	
Usable Floor Area:	1,576 Sq Ft	32.34% Actual
Ratio	200 Sq Ft	
Parking Required	8 Spaces	
Provided Parking:	25 Spaces	
Difference	17 Spaces	

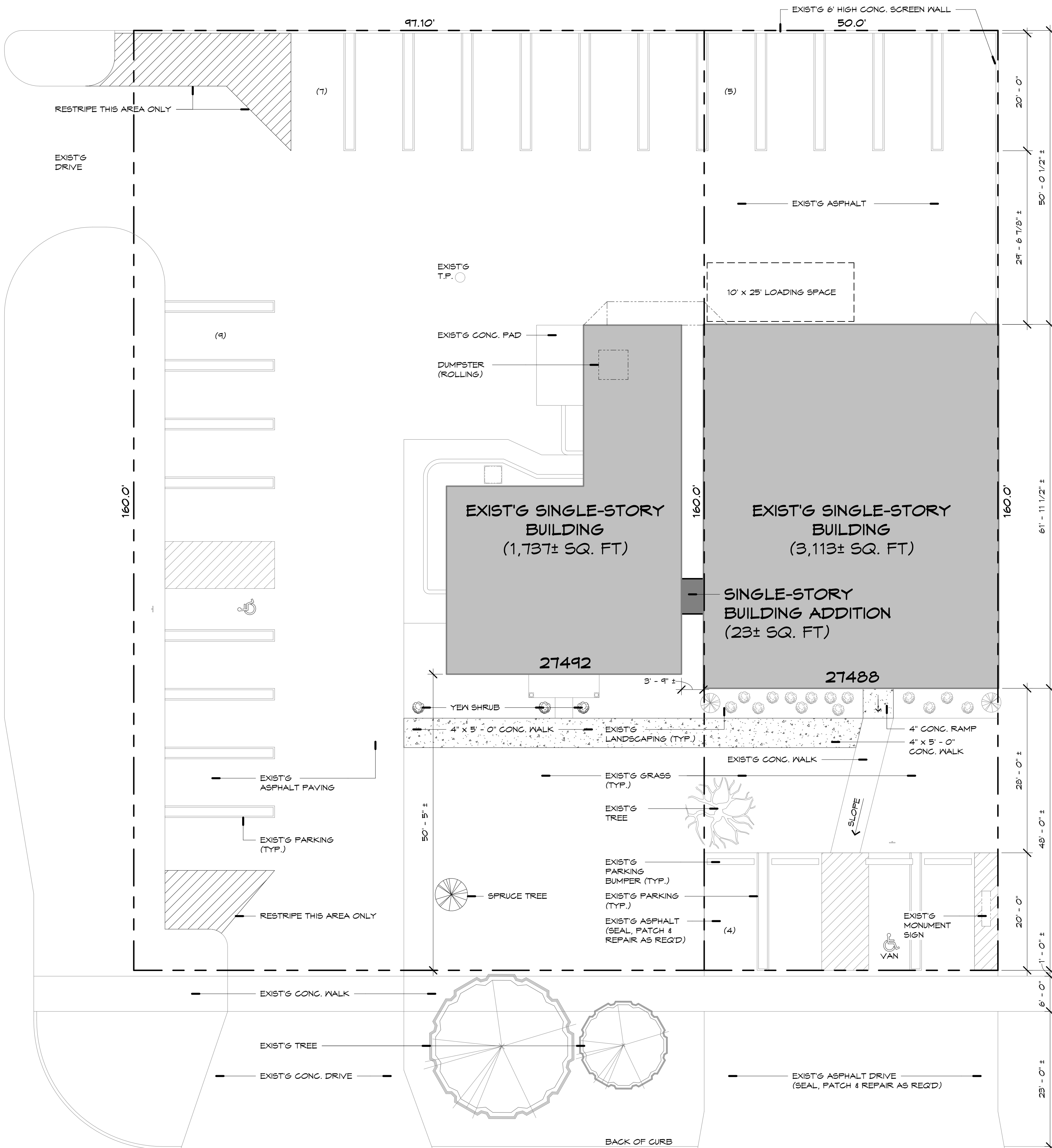
Section 9.08 Off Street Loading

Office Use Size: 10' x 25'

Section 10.03(1) Frontage Landscaping

Deciduous or Evergreen Tree: 1/40 Ln Ft Required = 2 Provided = 2
Ornamental (Flowering Tree): 1/100 Ln Ft Required = 1 Provided = 1
Shrubs: 8/40 Ln Ft Required = 19 Provided = 19

FOCH ST



FIVE MILE RD.

PROPOSED SITE PLAN
SCALE: 1" = 10'-0"

PROPERTY DESCRIPTION (27488 5 MILE RD):

13E39A 39B1 PARKWAY SUB T1S R4E L6S P67 INCR S 160 FT OF LOT 39 PARKWAY SUB L 6S OF PLATS P 67 INCR OF SE 1/4 SEC 13 T1S R4E

PROPERTY DESCRIPTION (27492 5 MILE RD):

The South 160 feet of Lot(s) 38 of PARKWAY SUBDIVISION according to the plat thereof recorded in Liber 68 of Plats, Page 67 of Wayne County Records. ALSO the West 50 feet of the East 896.50 feet of the North 160 feet of the South 220 feet of the Southeast 1/4, Section 13, Town 1 South, Range 4 East.

DRAWING INDEX

ARCHITECTURAL

- P1 COVER SHEET, PROPOSED SITE PLAN
- P2 PROPOSED FLOOR PLAN (ADDITION)
- P3 EXIST'G & PROPOSED ELEVATIONS

FOR REFERENCE ONLY

1 OF 1 BOUNDARY, TOPOGRAPHIC AND UTILITIES SURVEY

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Tiseo Architects, Inc.

19815 Farmington Road
Livonia, Michigan
48152-1444

248.888.1300
fax 248.888.1313
www.tiseo.com



TrueHeal Veterinary Hospital Addition

27492 5 Mile Rd
Livonia, Michigan

Drawn by: Kimberly Lapinski
Checked by: Benedetto Tiseo

Seal / Signature



Date 05 MAY 2025

Issued for: WAIVER USE
Date: 05 MAY 2025

NOT FOR CONSTRUCTION

COVER SHEET,
PROPOSED SITE
PLAN

Project No. 24018
Sheet No. P1

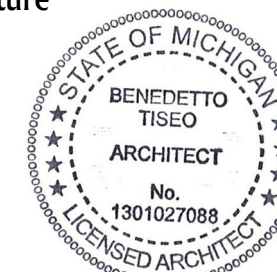
Date Printed:



TrueHeal Veterinary Hospital Addition
27492 5 Mile Rd
Livonia, Michigan

Drawn by: Kimberly Lapinski
Checked by: Benedetto Tiseo

Seal / Signature



B. Tiseo

Date: 05 MAY 2025
Issued for: WAIVER USE
Date: 05 MAY 2025

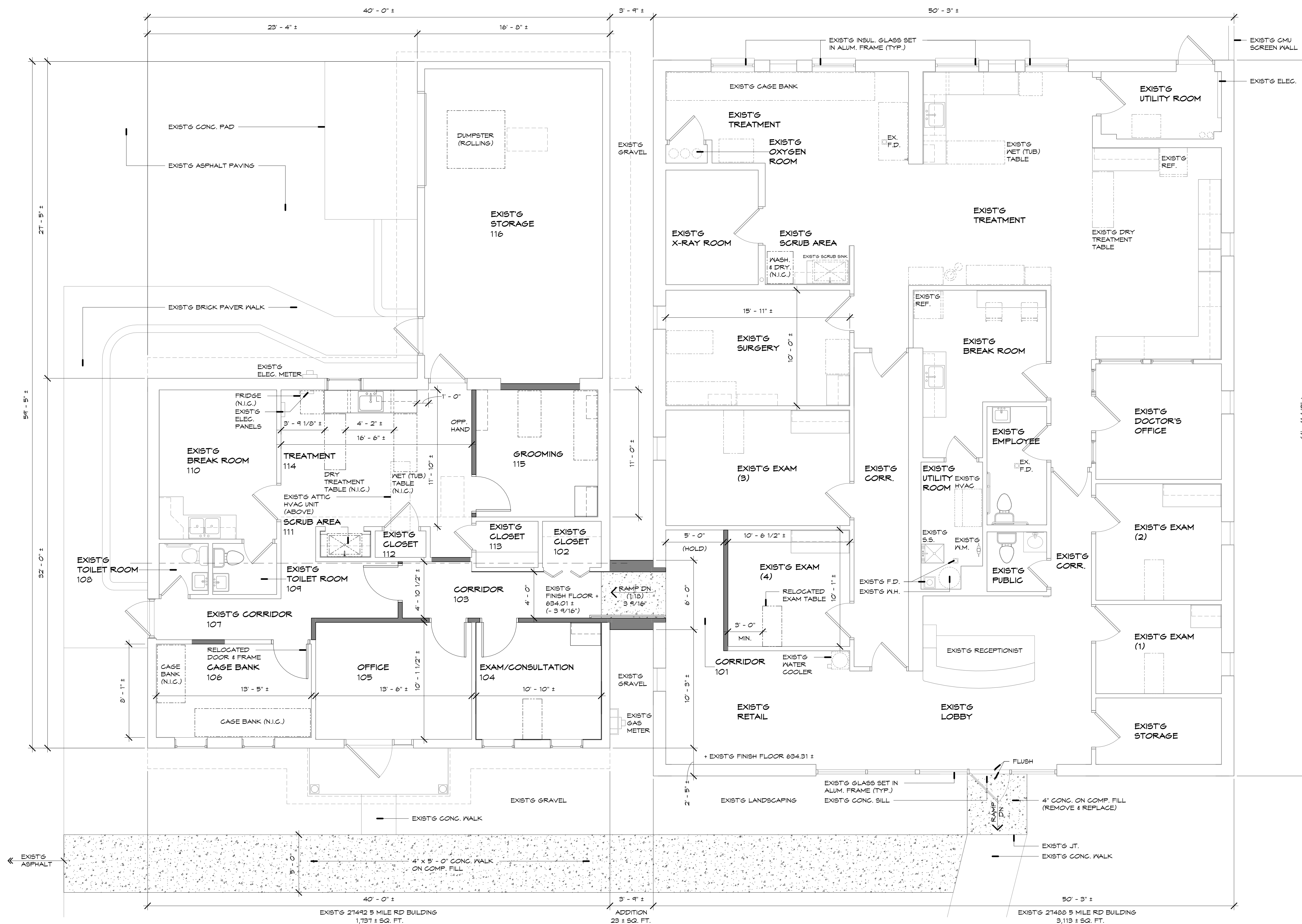
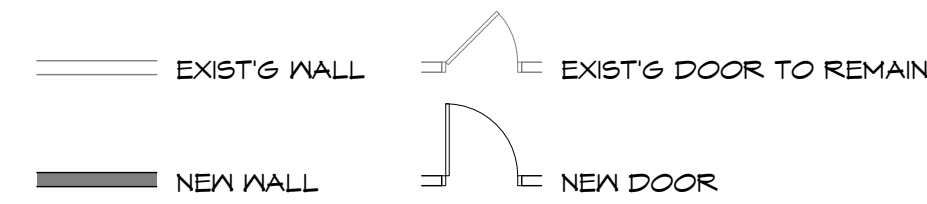
NOT FOR CONSTRUCTION

PROPOSED FLOOR PLAN (ADDITION)

Project No. 24018 Sheet No. P2

Date Printed:

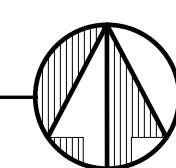
WALL/DOOR LEGEND:



PROPOSED FLOOR PLAN (ADDITION)

SCALE: 1/4" = 1'-0"

4,873± SQ. FT.

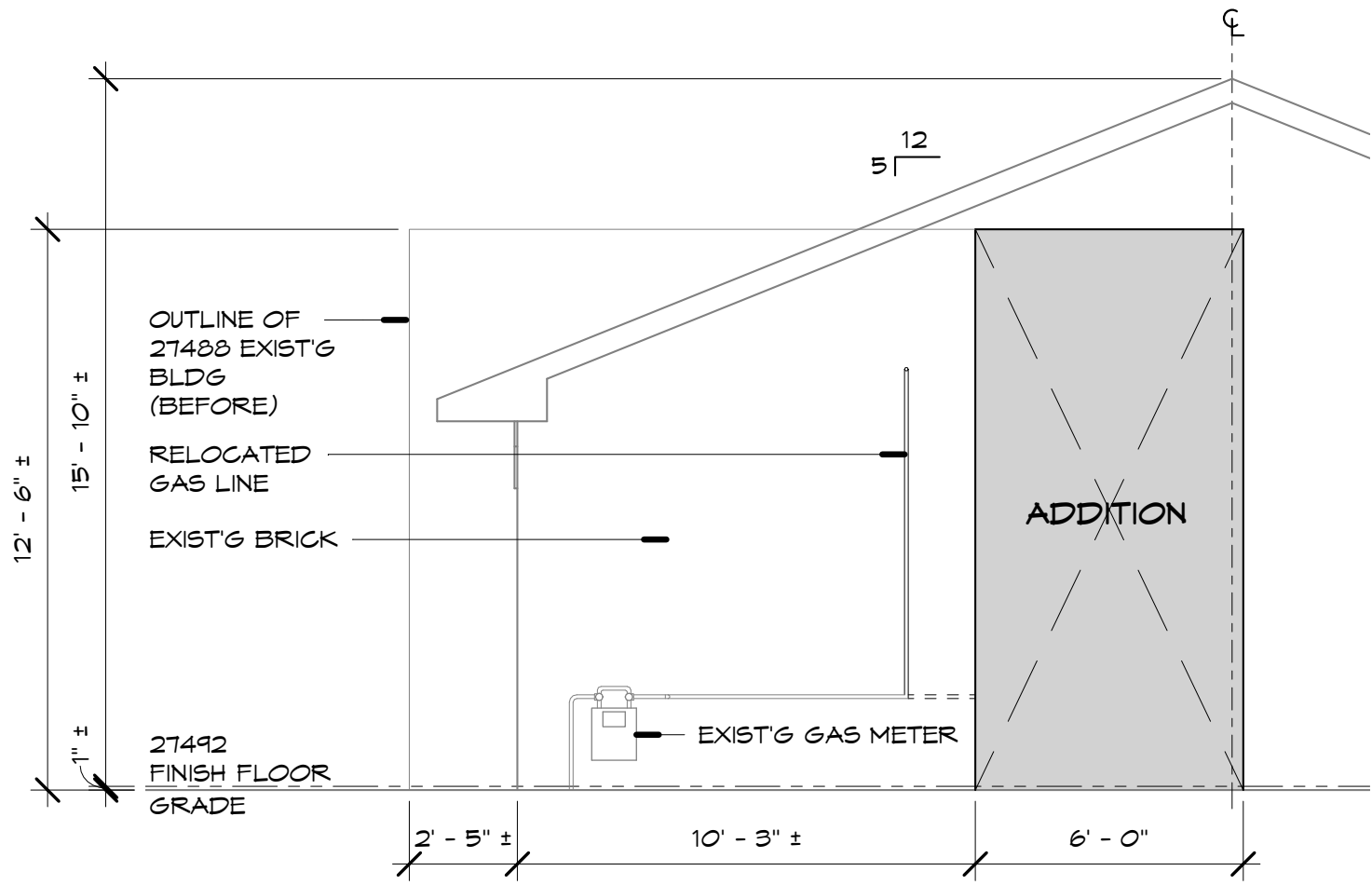


NORTH

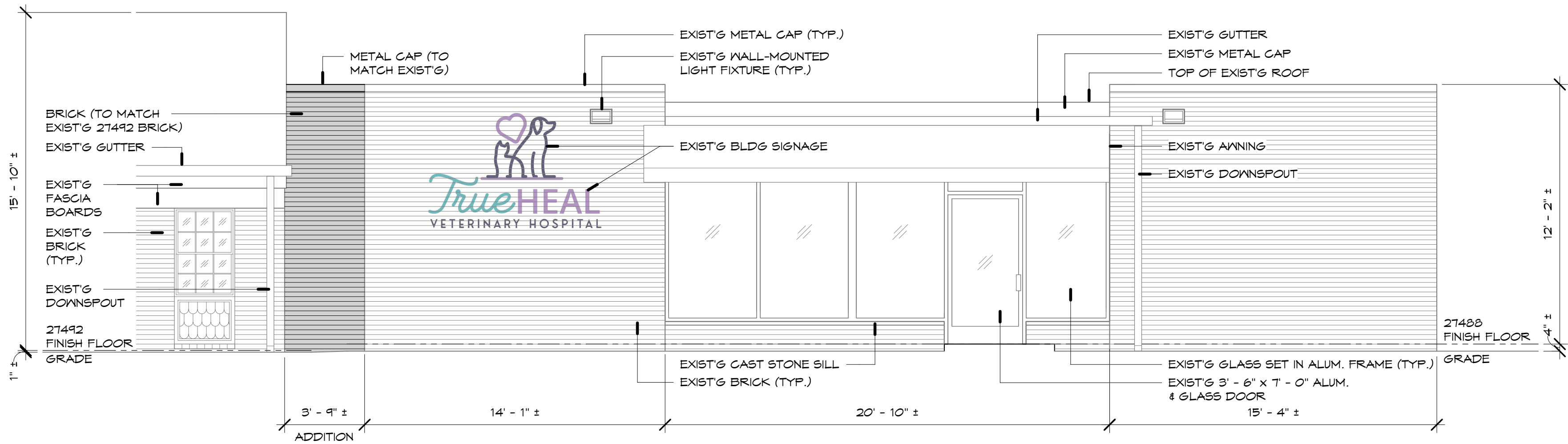
T:\PROJECTS\24018\24018_Proposed_Floor_Plan_Addition.dwg 5 Mile Rd Livonia Preliminary CAD/3D - SPAN-15 5/9/2025 4:20:36 AM



EXIST'G WEST ELEVATION
SCALE: No Scale



PROPOSED EAST ELEVATION
SCALE: 1/4" = 1'-0"



EXIST'G SOUTH ELEVATION
SCALE: No Scale

PROPOSED SOUTH ELEVATION
SCALE: 1/4" = 1'-0"



**TrueHeal Veterinary
Hospital Addition**
27492 5 Mile Rd
Livonia, Michigan

Drawn by: Kimberly Lapinski
Checked by: Benedetto Tiseo

Seal / Signature



Date: 05 MAY 2025
Issued for: WAIVER USE
Date: 05 MAY 2025

**NOT FOR
CONSTRUCTION**

**EXIST'G &
PROPOSED
ELEVATIONS**

Project No. Sheet No.

24018 P3

Date Printed:

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

TODD J. ZILINCIK, P.E.
CITY ENGINEER

DAVID W. LEAR, P.E.
ASST. CITY ENGINEER



MAUREEN MILLER BROSNAN
MAYOR

DONALD R ROHRAFF
DIRECTOR OF PUBLIC WORKS

12973 FARMINGTON ROAD
LIVONIA, MICHIGAN 48150
(734) 466-2571
FAX: (734) 466-2195

May 21, 2025

Mr. Kristoffer Canty
Planner IV
City of Livonia

Re: Petition 2025-05-02-10 – #27492 Five Mile Road

Dear Mr. Canty:

In accordance with your request, the Engineering Division has reviewed the above referenced petition. We have no objections to the proposed waiver use at this time, but would like to note the following items:

1. The subject parcels are assigned the addresses of **#27488 and #27492 Five Mile Road**. Should additional addresses be needed, the Owner will need to contact this Department once approvals have been obtained.
2. The existing parcel is currently serviced by public sanitary sewer and water main, as well as private storm sewer. Utility information, specifically storm detention calculations, have not been submitted with the drawings, but we do not believe there will be any adverse effects from the proposed project.
3. After the subject parcel has transferred ownership, the developer shall contact the Assessor's office to combine the parcels prior to receiving final permit close-out.

Should you have any additional questions on this matter, please feel free to contact myself at (734) 466-2608 or the City Engineer, Mr. Todd Zilincik at (734) 466-2561. If you would prefer, you can e-mail either of us at dlear@livonia.gov or tzilincik@livonia.gov.

Sincerely,

David W. Lear, P.E.
Assistant City Engineer

cc: 2025 Petition File

DEPARTMENT OF PUBLIC SAFETY
LIVONIA FIRE & RESCUE

ROBERT JENNISON
FIRE CHIEF



MAUREEN MILLER BROSNAN
MAYOR

14910 FARMINGTON ROAD
LIVONIA, MICHIGAN 48154-5419
734-466-2444
734-466-2082 fax

DATE: May 14, 2025
TO: Kristoffer Canty, Planner IV
FROM: Livonia Fire Prevention Division
SUBJECT: Petition # 2025-05-02-10 True Heal Vet Hospital 27492 5 Mile Rd.

This office has reviewed the site plan submitted in connection with a request to construct an addition to an existing commercial building on property located at the above referenced address.

We have no objections to this proposal.

A further detailed plan review will take place when this division receives an official plan set.

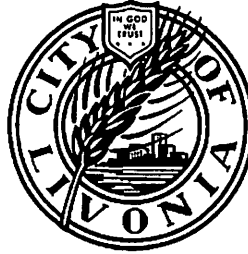
Sincerely,

Brian R. Kukla

Brian R. Kukla
Fire Marshal

**DEPARTMENT OF PUBLIC SAFETY
DIVISION OF POLICE**

THOMAS GORALSKI
CHIEF OF POLICE



MAUREEN MILLER BROSNAN
MAYOR

15050 Farmington Road
Livonia, Michigan 48154-5499
(734) 466-2470
FAX: (734) 261-2265

May 12th 2025

Mr. Scott Miller
City of Livonia Planning Dept
33000 Civic Center Drive
Livonia, MI 48154

Re: Petition 2025-05-02-10 – 27491 Five Mile Road

Mr. Miller,

I have reviewed the plans in connection with the petition. I have no objections to the proposals.

Please feel free to contact me, should you have any questions.

Sincerely,

FOR THE CHIEF OF POLICE,

Paul Walters, Sergeant
Traffic Bureau
(734) 466-2107

INSPECTION DEPARTMENT

BUILDING
HEATING
PLUMBING
ELECTRICAL
ZONING
ENVIRONMENTAL PROTECTION
ORDINANCE ENFORCEMENT



MAUREEN MILLER BROSNAN
MAYOR

JEROME A. HANNA
DIRECTOR

33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3097
(734) 466-2580
FAX: (734) 466-2095

Date: June 5, 2025

To: Kristoffer Canty

From: Jerome Hanna

RE: Petition 2025-05-02-10 – 27492 Five Mile Road

Pursuant to your request, the above-referenced Petition has been reviewed.

1. These two separate parcels must be combined before the proposed addition can connect the two buildings.

This Department has no further objections to this Petition.

I trust this provides the requested information.

Jerome Hanna

Jerome Hanna
Director of Inspection

OFFICE OF THE TREASURER

SUSAN M. NASH
CITY TREASURER



33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3060
(734) 466-2245
FAX: (734) 421-7230

June 5, 2025

RE: 27488 and 27492 Five Mile

Attention: planning Commissioners

All taxes have been paid on this property.

If you have any further questions, please contact me

Thank you

Susan Nash
Livonia City Treasurer

**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD JULY 07, 2025**

4.

Meeting was called to order at 9:08 p.m. by Vice President Ptashnik. Present: Scott Morgan, Laura Toy, Rob Donovic, Carrie Budzinski, Lynda Scheel, and Vice President Ptashnik. Absent: Council President McCullough.

Elected and appointed officials present: Carter Fisher, City Attorney; Lori L. Miller, City Clerk; Mark Taormina, City Planner and Economic Development Director; Dave Lear, Assistant City Engineer.

Councilmember Toy led the meeting with the Pledge of Allegiance.

8. REQUEST FOR AUTHORIZATION TO LEASE ONE (1) 2025 FORD E450 CHAMPION CHALLENGER CH4 PASSENGER BUS THROUGH THE STATE OF MICHIGAN BID PROCESS: Department of Housing, re: for transporting Senior Center participants to events and activities, with funds budgeted from the Community Development Block Grant Program.

Kate Whiting, Senior Division Director, requested approval for a lease for a bus to bring seniors to and from events.

Councilmember Morgan inquired on the reasoning for leasing versus buying a bus.

Kate Whiting, Senior Division Director, noted the reason for leasing is that under CDBG policy they cannot buy a bus, only lease.

Motion was made by Councilmember Toy to put the matter on the Consent portion of the next Regular Agenda.

DIRECTION:

APPROVING

CONSENT



LETTER TO THE LIVONIA CITY COUNCIL

8.

Housing
June 11, 2025

MEETING DATE

S070725/R072125

PRESENTED BY

Madison Bjertness, Executive Director of Housing

AGENDA ITEM

REQUEST FOR AUTHORIZATION TO LEASE ONE (1) 2025 FORD E450 CHAMPION CHALLENGER CH4 PASSENGER BUS THROUGH THE STATE OF MICHIGAN BID PROCESS: Department of Housing, re: for transporting Senior Center participants to events and activities, with funds budgeted from the Community Development Block Grant Program.

BACKGROUND DETAILS

The Community Development Block Grant program requests approval to lease one (1) 2025 Ford E450 Champion Challenger Bus through the State of Michigan bid process (State of Michigan Contract #MA240000001208) utilizing budgeted funds. The total cost of the lease is five (5) yearly payments of \$28,468.40. The state bid is awarded to Lunghamer Ford. The bus will be utilized by Parks and Recreation for transporting Senior Center participants to events and activities.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

We ask City Council to approve the lease of the 2025 Ford E450 Champion Challenger CH4 Bus.

SPECIFIC NAME OF PRODUCT AND NUMBER TO BE PURCHASED (if more than one)

2025 Ford E450 Champion Challenger CH4 Bus with four (4) wheelchair positions and eight (8) passenger seats

CONTRACT: Amount and/or purchase price and length of contract (with dates if applicable)

Five (5) Year Lease with yearly payments of \$28,468.40.

DETAILED WORK BEING PERFORMED

Vehicle ordered through Lunghamer Ford, 1960 E. Main Street, Owosso, MI 48867

FISCAL CONSIDERATIONS (Amount requested and Account(s) used. If applicable, Grant Funding information)

Five (5) yearly payments of \$28,468.40, using budgeted funds from account 234-609-944-000

ACCEPTANCE OF BID (Please detail the following: Why accepted, why not lowest bidder, company name, contact person, full address)

N/A

REASON TO WAIVE BID PROCESS (Emergency, Professional services, No advantage to City and why, Consortium package, etc): State of Michigan bid process. Contract #MA 240000001208 and Macomb County Contract #21-18.

ATTACHMENTS

1. Ford E450 Quote 104801
2. LCPR 2025 E450 CHAMPION CHALLENGER

APPROVED BY



Date: June 16, 2025

Madison Bjertness, Executive Director of Housing



Date: June 16, 2025

Ted Davis, CPRP, Superintendent of Parks and Recreation



Date: June 17, 2025

Debra Peck Lichtenberg, CPA, Finance Director



Date: June 20, 2025

Carter Fisher, City Attorney



Date: June 20, 2025

Maureen Miller Brosnan, Mayor

Financing Quote # 104801

April 16, 2025

Municipality: City of Livonia
Dealer: Lunghamer Ford

Ford Credit Municipal Finance is pleased to provide the following quote for your consideration.
Expiration Date: 6/15/2025

Description	Unit Price
2025 Ford E450 w/ equipment	\$121,195.00

Total Asset Cost	\$121,195.00
Underwriting Fee	\$545.00
Amount Financed	\$121,740.00
Number of Payments	5
Payment Timing	Annual
Rate	8.49%
Payment Amount	\$28,468.40

This quote was prepared assuming the lease qualifies for Federal Income Tax Status for Ford Credit Company LLC under Section 103 of the IRS Code and is not a commitment by Ford Credit Municipal Finance. Financing is subject to credit review.

Thank you for the opportunity to provide this quote. If you have any questions, need additional options, or would like to proceed with the application process, please contact by using the information below.

Sincerely,

Jessica Olson

Jessica Olson
Marketing Coordinator
jgunn26@ford.com
1-800-241-4199, press 1



April 16, 2025

City of Livonia DPW
Attn: Gus Kandah
12973 Farmington Road
Livonia, MI 48150

Dear Gus Kandah:

Price on 2025 Vehicle State of Michigan Contract# MA 240000001208 and Macomb County Contract# 21-18 Bid:

2025 Ford E450 Champion Challenger CH4	\$120,470.00 ea
Extra Tie Down Straps	\$625.00 ea
(2) Extra Keys	\$300.00 ea
Total Delivered Price	\$121,395.00

Order Cutoff Date: In Stock Unit.

Delivery date: Approximately 90-120 Days A.R.O.

Standard Service Contract: 36,000 miles or 36 months factory Bumper to Bumper Warranty and 60,000miles 60 months Powertrain Warranty. Service to be handled by your local Ford Dealer.

Ford Motor Company does not guarantee delivery---Ford Motor Company will make reasonable efforts to schedule orders received prior to fleet order cut-off date.

Payment requirements: All departments to pay on delivery of vehicle. 10-day grace period will be given if previous arrangements have been made. A \$9.50 per day floor plan will be charged if payment is not at the dealership within 10 days of delivery of the vehicle (s).

If you have any questions please call me, 888-92-FLEET (923-5338)

Respectfully Submitted,

Bill Campbell

Bill Campbell
Government & Fleet Sales

1960 E Main St Owosso, MI 48867, 888-92-FLEET (888.923.5338) Fax 517-625-5832

New 2025 Champion Challenger CH-4 (E-450)



**8(12) pass + 4 Wheelchair
Positions**

Unit# CH-4
10+ Units in Stock

Chassis and Body Specifications

2025 Ford E-450 Chassis
7.3L V-8 Gas Engine
14,500# GVWR
158" Wheelbase
23' Body
96" Wide
Dual Rear Wheels
ABS Hydraulic Brakes
225 Amp Alternator
55 Gallon Fuel Tank
Cruise Control & Tilt Steering Wheel
Automatic Transmission
OEM Dash AC
LED Interior & Exterior Lights
3/4" Plywood Subfloor
White Step Nosing
Protective Rust Inhibitor Applied Underneath Bus
Spring Suspension System
Fully Welded Steel Cage Construction
Heavy Duty Reinforced Flooring w/raised floor

OPTIONS INCLUDED

Interior

Padded Vinyl Walls & Ceiling (gray)
Dual Grab Rails Parallel to Entry Steps
Stanchion & Modesty Panel Behind Driver
Stanchion & Modesty Panel at Pass Entry

Exterior

Stainless Steel Wheel Inserts
Valve Stem Extenders for Inner Rear Wheels
Mud Flaps
LED Rear Center Mount Brake Light
Front Mud Flap On Passenger Side
Fiber Glass Composite Exterior

OPTIONS INCLUDED

Seating

Freedman Shield Driver Seat
Re-Upholstered Driver Seat to Match Passenger Seats
(8) Freedman Mid-Back Passenger Seats
(2) Double Freedman Foldaway Seats
Level 1 Grey Vinyl Upholstery
Seat Color: Oxen Grey
Anti-Vandal Grab Handles
2pt Retractable Seatbelts



Climate Control

70,000 BTU Rear AC System w/ Dual Compressors
70,000 BTU Floor Mounted BTU Rear Heater
Heater Booster Pump

ADA / Paratransit

Double Wheelchair Lift Doors in Rear of Bus
Gateway Intermotive Fast Idle System w/ Interlock
Braun Century Wheelchair Lift 1000LB Lift
(4) Q-Straint Deluxe Retractor Tie-Down Kits
Storage Pouches for Tie-Downs
ADA Priority Seating & Wheelchair Signage

Flooring

Gerflor Non-Slip Safety Flooring (grey)
White Step Nosing



Luggage

Driver Overhead Storage Compartment



Doors & Windows

36" Wide Electric Passenger Entry Door
Rear Door w/ Upper & Lower Window & LH Hinge
Tinted T-Slider Passenger Windows



Electrical

Intermotive FlexTech Electrical System
LED Dome Lights
Door Activated Interior Lights
Exterior Mirrors Remote & Heated
Circuit Breakers In Lieu Of Fuses
Exterior Entry door keyswitch



Audio / Video Equipment

Deluxe AM/FM/CD Player
4 Upgraded Jensen Speakers



Safety

Rear Back Up Camera
First Aid Kit, Fire Extinguisher, & Safety Triangles
Back Up Alarm
Interior Convex Driver Mirror
White Standee Line



Factory Warranties

5 Year/100,000 Mile Champion Warranty
5 Year/100,000 Mile Mile A/C Warranty
5 year / 60,000 mile Engine & Powertrain
3 year / 36,000 mile Basic Chassis



Additional Options (NOT Included in Pricing)



PRICING:

Unit Price \$ 127,895
Less Rebates & Discounts \$ 7,425

Total Price \$ 120,470

Est. **LEASE** Pmt. 60 Months
Est. **FINANCE** Pmt. 60 Months

*Est. Lease and Finance payments based on \$0 down + \$400 Doc Fee, upon credit approval. Lease based off of 12k miles per year.

Terms and Conditions:

20% Deposit Required to Hold Unit. All quotes valid for 30 days. All stock units are subject to prior sale. Price or Payments do not include tax, license, or delivery unless stated.

Customer Signature: _____

Sales Rep. Signature: _____

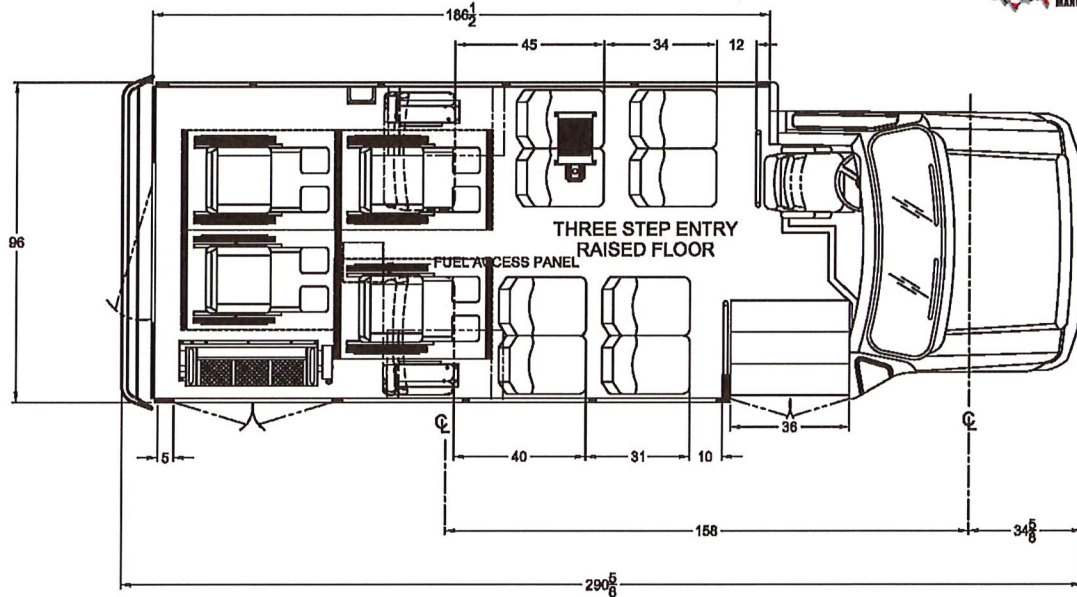
Date: _____



Images



Floor Plan



DEALER APPROVAL

☐ APPROVED

CUSTOMER SIGNATURE

NOTE: SHOWN WITH MID HI FREEDMAN BEATS
ALLSTAR E-450 14,500 GVWR
THIS FLOOR PLAN IS FOR ILLUSTRATION PURPOSES ONLY.
A WEIGHT ANALYSIS HAS NOT YET BEEN PERFORMED.
FINAL APPROVAL WITH A WEIGHT ANALYSIS IS REQUIRED UPON RECEIPT OF A
COMPLETED ORDER WITH ALL OPTIONS SHOWN.
OPTIONAL EQUIPMENT MAY BE SHOWN.
THE SALES ORDER PLACED DICTATES ACTUAL OPTION CONTENT.

SCALE
IN INCHES



THIS DRAWING AND THE INFORMATION THEREON ARE THE EXCLUSIVE PROPERTY OF STARCRAFT BUS, A DIVISION OF FOREST RIVER. IT SHALL NOT BE COPIED OR REPRODUCED IN ANY MANNER, NOR SHALL IT BE SUBMITTED TO OUTSIDE PARTIES FOR EXAMINATION WITHOUT OUR WRITTEN CONSENT. IT IS LOANED FOR USE WITH REFERENCE TO WORK UNDER CONTRACT WITH, OR PROPOSALS SUBMITTED TO STARCRAFT BUS, A DIVISION OF FOREST RIVER.

REV.	DESCRIPTION OF CHANGE	BY	CHK	DATE	ECN No.
A	PRELIM PACKET:	TAS		10/08/13	

TOLERANCE UNLESS OTHERWISE SPECIFIED		STARCRAFT BUS A Division of Forest River, Inc.	
WOOD	OTHER	DATE: 10/08/13	TITLE: 8'4" WC 158" WB 178" BODY BY ALLSTAR
± 1/8"	± 1/16"	NAME: TAS	
± 1"	± 1/2"	DWG. No. 8'4" WC 2 DB FOLDS 158 175 USA	

Additional Information

**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD JULY 07, 2025**

5.

Meeting was called to order at 9:08 p.m. by Vice President Ptashnik. Present: Scott Morgan, Laura Toy, Rob Donovic, Carrie Budzinski, Lynda Scheel, and Vice President Ptashnik. Absent: Council President McCullough.

Elected and appointed officials present: Carter Fisher, City Attorney; Lori L. Miller, City Clerk; Mark Taormina, City Planner and Economic Development Director; Dave Lear, Assistant City Engineer.

Councilmember Toy led the meeting with the Pledge of Allegiance.

9. AWARD OF BID: Department of Parks and Recreation, re: remediation services at the Alexander Blue House at Greenmead Historical Park, from budgeted funds.

Ted Davis, Superintendent of Parks and Recreation, asked the Council to award a bid to do interior restoration at the Alexander Blue House.

Denise Mica, Lancashire, requested information regarding the work being done to the building.

Ted Davis, Superintendent of Parks and Recreation, mentioned plans of mold removal, drywall removal, insulation removal, and repairs to the office area.

Motion was made by Councilmember Toy to put the matter on the Consent portion of the next Regular Agenda.

DIRECTION:

APPROVING

CONSENT



LETTER TO THE LIVONIA CITY COUNCIL

9.

Parks and Recreation June 3, 2025

MEETING DATE

S070725/R072125

PRESENTED BY

Ted Davis, CPRP, Superintendent of Parks and Recreation

AGENDA ITEM

AWARD OF BID: Department of Parks and Recreation, re: remediation services at the Alexander Blue House at Greenmead Historical Park, from budgeted funds.

BACKGROUND DETAILS

On behalf of Greenmead Historical Park, we respectfully request the acceptance of a proposal from Anytime Restoration Services, for remediation services at the Alexander Blue House.

Bids were solicited through MITN, with three companies submitting complete proposals:

Anytime Restoration Services	\$29,400.00
SunGlo Disaster Restoration Services	\$46,480.92
Belfor Property Registration	\$71,519.00

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

-Authorize a budget amendment to allocate additional funds from 270 Historical Fund to 270-000-971-000 in the amount of \$14,400.

-Authorize an expenditure in the amount of \$29,400 from 270-000-971-000 Capital Outlay Minor.

SPECIFIC NAME OF PRODUCT AND NUMBER TO BE PURCHASED (if more than one)

N/A

CONTRACT: Amount and/or purchase price and length of contract (with dates if applicable)

\$29,400

DETAILED WORK BEING PERFORMED

Remove and repair all water damaged areas.

FISCAL CONSIDERATIONS (Amount requested and Account(s) used. If applicable, Grant Funding information)

\$29,400 from 270-000-971-000

ACCEPTANCE OF BID (Please detail the following: Why accepted, why not lowest bidder, company name, contact person, full address)

This was the lowest bid received.

REASON TO WAIVE BID PROCESS (Emergency, Professional services, No advantage to City and why, Consortium package, etc): N/A

ATTACHMENTS

1. 2025 Alexander Blue House Remediation

APPROVED BY



Date: June 03, 2025

Ted Davis, CPRP, Superintendent of Parks and Recreation



Date: June 06, 2025

Debra Peck Lichtenberg, CPA, Finance Director



Date: June 20, 2025

Carter Fisher, City Attorney



Date: June 20, 2025

Maureen Miller Brosnan, Mayor



City of Livonia Parks and Recreation

Request for Quote

Remediation Services at Alexander Blue House, Greenmead Historical Park

Background

Alexander Blue House, located at 20501 Newburgh Road, Livonia, MI 48152, had some water damage to multiple areas of the second floor. The City of Livonia is seeking qualified contractors to provide a quote to remove and repair all the water damage areas. All quotes are accepted electronically via Bidnet.com only. The due date for quote submissions is **Friday, April 25th, 2:00 PM EST**. Please contact Emily Tchorz-Fielder at 248-477-7375 to schedule a site visit during the week of April 14, 2025.

The following areas were visually identified for water damage remediation:

- 2nd Floor – East Landing
 - East wall drywall exhibits water damage/staining at top of stairs.
 - Ceiling drywall exhibits water damage at/along east wall at top of stairs.
- 2nd Floor – East Storage
 - The upper S&E wall drywall exhibits water damage at SE corner.
 - Closet upper N/W/S wall drywall exhibits water damage/staining (drip marks) in west ½ of room.
 - The closest ceiling drywall exhibits water staining/damage and microbial growth in SW portion of area.
- 2nd Floor – NE Storage
 - Lower east wall drywall exhibits water damage below windows.
- 2nd Floor – SE Storage
 - The lower east wall drywall exhibits water damage & microbial growth below windows.
 - The closest ceiling drywall exhibits water staining/damage and microbial growth in the east portion of area.
- 2nd Floor – East Offices
 - Soffit drywall (at east end of room) exhibits water damage & microbial growth.
 - N&S wall drywall exhibits water damage/staining (drip marks) below soffit.
 - Ceiling drywall exhibits water staining/damage and microbial growth at west end of room adjacent to West Offices entry door.

Scope of Project

The City has consulted with an environmental testing company that provided the following recommendations to remediate water damage:

2nd Floor – East Office:

1. Remove contents.
2. Remove lower N&S wall molding/trim at soffit.
3. Pull back the carpet from N&S walls below soffit.
 - Remove any/all discolored carpet padding and/or tack strips.
 - Inspect carpet back surface for evidence of microbial growth & discard carpet if growth is present.
4. Remove north wall drywall (floor to ceiling) from 2' east of soffit extending to 2' west of soffit.
5. Remove south wall drywall (floor to ceiling) from 2' east of soffit extending to 2' west of soffit.
6. Remove soffit drywall (all).
7. Remove 2' of ceiling drywall at/along both sides of soffit.
8. Remove 6' of ceiling drywall at/along west wall from 3' north of SW corner extending north 7'.
9. Remove any/all exposed cavity insulation.
 - Inspect cavities(s). Extend drywall removal until 2' past any cavity damage/growth (if present).
10. Wood materials exhibiting water damage or microbial growth should be treated as follows:
 - Remove any materials which exhibit evidence of rot/degradation.
 - Materials which exhibit evidence of microbial growth should be abrasively cleaned (sanded or similar).
11. Verify/dry all remaining materials to <15% WME.
12. All remaining/exposed surfaces should be detail cleaned via a HEPA vacuum and/or damp wipe process.

2nd Floor – SE Storage Room:

1. Remove contents.
2. Remove the lower east wall and window molding/trim.
3. Pull back the carpet from east wall.
 - Remove any/all discolored carpet padding and/or tack strips.
 - Inspect carpet back surface for evidence of microbial growth & discard carpet if growth is present.
4. Remove lower 2' of the east wall drywall from 2' north of window extending to 2' south of window.
5. Remove any/all exposed cavity insulation.
 - Inspect cavities(s). Extend drywall removal until 2' past any cavity damage/growth (if present).
6. Wood materials exhibiting water damage or microbial growth should be

treated as follows:

- Remove any materials which exhibit evidence of rot/degradation.
 - Materials which exhibit evidence of microbial growth should be abrasively cleaned (sanded or similar).
7. Verify/dry all remaining materials to <15% WME.
 8. All remaining/exposed surfaces should be detail cleaned via a HEPA vacuum and/or damp wipe process.

2nd Floor – SE Storage Room Closet:

1. Remove contents.
2. Remove lower N/E/S wall and door side molding/trim.
3. Pull back carpet from east wall.
 - Remove any/all discolored carpet padding and/or tack strips.
 - Inspect carpet back surface for evidence of microbial growth & discard carpet if growth is present.
4. Remove upper 2' of north wall drywall from NE corner extending west 2'.
5. Remove upper 2' of east wall drywall (all).
6. Remove upper 2' of south wall drywall from SE corner extending west 2'.
7. Remove 2' of ceiling drywall at/along east wall (all).
8. Remove any/all exposed cavity insulation.
 - Inspect cavities(s). Extend drywall removal until 2' past any cavity damage/growth (if present).
9. Wood materials exhibiting water damage or microbial growth should be treated as follows:
 - Remove any materials which exhibit evidence of rot/degradation.
 - Materials which exhibit evidence of microbial growth should be abrasively cleaned (sanded or similar).
10. All remaining/exposed surfaces should be detail cleaned via a HEPA vacuum and/or damp wipe process.

2nd Floor – East Storage Room Closet:

1. Remove contents.
2. Remove all the lower wall and door side molding/trim.
3. Pull back the carpet from all the walls.
 - Remove any/all discolored carpet padding and/or tack strips.
 - Inspect carpet back surface for evidence of microbial growth & discard carpet if growth is present.
4. Remove upper 2' of east wall drywall from SE corner extending north 2'.
5. Remove S&W wall drywall (all).
6. Remove ceiling drywall (all).
7. Remove any/all exposed cavity insulation.
 - Inspect cavities(s). Extend drywall removal until 2' past any cavity damage/growth (if present).
8. Wood materials exhibiting water damage or microbial growth should be treated as follows:

- Remove any materials which exhibit evidence of rot/degradation.
- Materials which exhibit evidence of microbial growth should be abrasively cleaned (sanded or similar).
- 9. All remaining/exposed surfaces should be detail cleaned via a HEPA vacuum and/or damp wipe process.

2nd Floor – East Storage Room:

1. Remove contents.
2. Remove S&E wall molding/trim at SE corner.
3. Pull back the carpet from SE corner.
 - Remove any/all discolored carpet padding and/or tack strips.
 - Inspect carpet back surface for evidence of microbial growth & discard carpet if growth is present.
4. Remove upper 2' of east wall drywall from SE corner extending north 2'.
5. Remove upper 2' of south wall drywall from SE corner extending west to closet SE corner.
6. Remove 2' of ceiling drywall at/along south wall from SE corner extending west to closet SE corner.
7. Remove any/all exposed cavity insulation.
 - Inspect cavities(s). Extend drywall removal until 2' past any cavity damage/growth (if present).
8. Wood materials exhibiting water damage or microbial growth should be treated as follows:
 - Remove any materials which exhibit evidence of rot/degradation.
 - Materials which exhibit evidence of microbial growth should be abrasively cleaned (sanded or similar).
9. All remaining/exposed surfaces should be detail cleaned via a HEPA vacuum and/or damp wipe process.

2nd Floor – NE Storage Room:

1. Remove contents.
2. Remove east wall base and window molding/trim.
3. Pull back the carpet from the east wall.
 - Remove any/all discolored carpet padding and/or tack strips.
 - Inspect carpet back surface for evidence of microbial growth & discard carpet if growth is present.
4. Remove lower 2' of the east wall drywall from 2' north of windows extending south to 2' south of windows.
5. Remove any/all exposed cavity insulation.
 - Inspect cavities(s). Extend drywall removal until 2' past any cavity damage/growth (if present).
6. Wood materials exhibiting water damage or microbial growth should be treated as follows:
 - Remove any materials which exhibit evidence of rot/degradation.
 - Materials which exhibit evidence of microbial growth should be abrasively cleaned (sanded or similar).

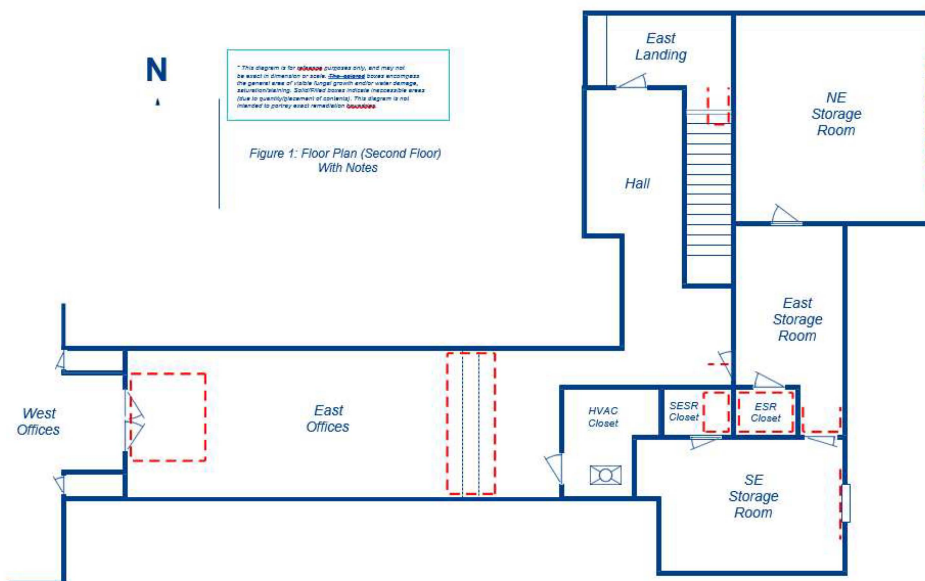
7. All remaining/exposed surfaces should be detail cleaned via a HEPA vacuum and/or damp wipe process.

2nd Floor – East Landing:

1. Remove the lower east wall molding/trim.
2. Pull back the carpet from the east wall.
 - Remove any/all discolored carpet padding and/or tack strips.
 - Inspect carpet back surface for evidence of microbial growth & discard carpet if growth is present.
3. Remove east wall drywall (floor to ceiling) from 6' south of NE corner extending south 3'.
4. Remove 2' of ceiling drywall at/along east wall 6' south of NE corner extending south 3'.
5. Remove any/all exposed cavity insulation.
 - Inspect cavities(s). Extend drywall removal until 2' past any cavity damage/growth (if present).
6. Wood materials exhibiting water damage or microbial growth should be treated as follows:
 - Remove any materials which exhibit evidence of rot/degradation.
 - Materials which exhibit evidence of microbial growth should be abrasively cleaned (sanded or similar).
7. All remaining/exposed surfaces should be detail cleaned via a HEPA vacuum and/or damp wipe process.

Map of Areas Impacted

(Diagram is for reference only and may not be exact in dimension or scale. The colored boxes encompass general areas of water damage.)



Some Photos of Water Damaged Areas

Section 1

Area at top of front stairwell, below northeast chimney.



Section 2

Area in two closets below northwest chimney.



Section 3

Area below middle chimney, east side of office area.



Section 4

Area below west chimney, middle of office.



QUOTE FORM

ALEXANDER BLUE HOUSE WATER DAMAGE REMEDIATION PRICING*	
Description	Cost
Materials (PPE, Protective materials, drywall, trim, paint, etc.)	\$ 14,500.00
Labor (cleaning and dry areas, remove and install new drywall, paint, etc.)	\$ 14,500.00
Dumpster	\$ 400.00
TOTAL	\$ 29,400.00
# of days to complete work	7-10 days
Warranty of work	18 Months

*****Pricing quote should also include a detailed outline of work to complete the project. *****

Please provide at least three (3) references with contact name and phone number for similar projects that you have completed in the last five (5) years.

1. City of Detroit Housing and Revitalization Department- Lamanten Jenkins 313-279-0449
2. Macomb County Planning and Economic Development - Lisa Piccinini 586-463-1066
3. Genessee County - Habitat for Humanity - John Guynn 810-766-9089 Ext. 211



Anytime Restoration

Anytime Restoration Services

6655 Chicago Rd

Warren, MI 48092

Main: 1-855-350-0333 Web: AnytimeRestorationServices.com

Tax Id #: 20-0480830

Client: Alexander Blue House
Property: 2051 Newburgh
Livonia, MI 48152

Operator: BRANDON

Estimator: Dawn Sommer
Position: Construction Estimator

Business: (586) 246-5383

Type of Estimate: Other

Date Entered: 4/15/2025

Date Assigned:

Price List: MIDE8X_APR25

Labor Efficiency: Restoration/Service/Remodel

Estimate: ALEXANDER_BLUE_HOUSE

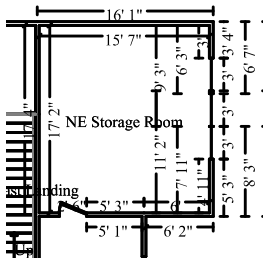
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ALEXANDER_BLUE_HOUSE

Main Level

General

DESCRIPTION	QTY	RESET	REMOVE	REPLACE	TAX	O&P	TOTAL
1. Haul debris - per pickup truck load - including dump fees	3.00 EA		186.40	0.00	0.00	111.84	671.04
45. Dust control barrier per square foot	34.11 SF		0.92	0.00	0.35	6.28	38.01
44. Peel & seal zipper	4.00 EA		15.01	0.00	2.40	12.00	74.44
71. Content Manipulation charge - per hour	14.00 HR		0.00	55.25	0.00	154.70	928.20
<i>extra labor hours needed for contents manipulation</i>							
175. Taxes, insurance, permits & fees (Bid Item)	1.00 EA		0.00	0.00	0.00	0.00	0.00
<i>Leave this open for any permit costs</i>							
Totals: General					2.75	284.82	1,711.69



NE Storage Room

Height: 8'

524.00 SF Walls	267.51 SF Ceiling
791.51 SF Walls & Ceiling	267.51 SF Floor
29.72 SY Flooring	65.50 LF Floor Perimeter
65.50 LF Ceil. Perimeter	

DESCRIPTION	QTY	RESET	REMOVE	REPLACE	TAX	O&P	TOTAL
4. Contents - move out then reset - Large room	1.00 EA		0.00	121.63	0.00	24.32	145.95
84. Detach & Reset Fluorescent - four tube - 4' - fixture w/lens	4.00 EA	101.90	0.00	0.00	0.00	81.52	489.12
115. Replace Window drapery - hardware - Detach & reset	3.00 EA		0.00	43.91	0.00	26.34	158.07
114. Detach & Reset Ceiling diffusers/grills - circular - 6" diameter	1.00 EA	26.46	0.00	0.00	0.00	5.30	31.76
20. R&R Batt insulation - 4" - R15 - paper / foil faced	137.60 SF		0.32	1.49	8.01	49.80	306.86
<i>remove insulation on the east exterior wall and replace it with new insulation.</i>							
8. R&R Casing - 3 1/4"	97.50 LF		0.68	3.76	14.22	86.58	533.70
2. R&R 1/2" drywall - hung, taped, floated, ready for paint	137.60 SF		0.56	3.02	6.11	98.54	597.26

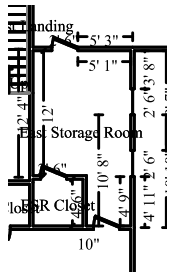
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CONTINUED - NE Storage Room

DESCRIPTION	QTY	RESET	REMOVE	REPLACE	TAX	O&P	TOTAL
6. R&R Baseboard - 3 1/4"	17.20 LF		0.61	4.48	1.97	17.52	107.04
91. Floor protection - plastic and tape - 10 mil	267.51 SF		0.00	0.35	1.93	18.72	114.28
43. Mask and prep for paint - plastic, paper, tape (per LF)	65.50 LF		0.00	1.61	1.06	21.10	127.62
41. Paint door/window trim & jamb - Large - 1 coat (per side)	3.00 EA		0.00	30.28	0.99	18.16	109.99
9. Seal/prime (1 coat) then paint (1 coat) the walls and ceiling	791.51 SF		0.00	1.15	11.40	182.04	1,103.68
176. Seal (1 coat) & paint (1 coat) baseboard	65.50 LF		0.00	1.79	0.59	23.46	141.30
13. Seal (1 coat) & paint (1 coat) casing	97.50 LF		0.00	1.81	0.99	35.30	212.77
17. Clean and deodorize carpet	267.51 SF		0.00	0.58	0.16	31.04	186.36
16. Final cleaning - construction - Commercial	267.51 SF		0.00	0.28	0.00	14.98	89.88

all surfaced should be wiped according to the mold report recommendations.

Totals: NE Storage Room	47.43	734.72	4,455.64
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East Storage Room

Height: 8'

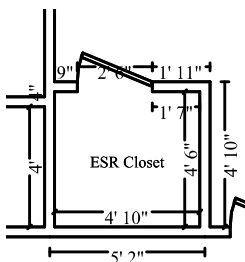
420.07 SF Walls	133.62 SF Ceiling
553.69 SF Walls & Ceiling	133.62 SF Floor
14.85 SY Flooring	52.51 LF Floor Perimeter
52.51 LF Ceil. Perimeter	

DESCRIPTION	QTY	RESET	REMOVE	REPLACE	TAX	O&P	TOTAL
23. Contents - move out then reset - Large room	1.00 EA		0.00	121.63	0.00	24.32	145.95
116. Interior door - Detach & reset - slab only	1.00 EA		0.00	28.79	0.00	5.76	34.55
40. Detach & Reset Smoke detector	1.00 EA	67.97	0.00	0.00	0.00	13.60	81.57
39. Detach & Reset Fluorescent - four tube - 4' - fixture w/lens	2.00 EA	101.90	0.00	0.00	0.00	40.76	244.56
25. Replace Window drapery - hardware - Detach & reset	2.00 EA		0.00	43.91	0.00	17.56	105.38
35. Detach & Reset Ceiling diffusers/grills - circular - 6" diameter	1.00 EA	26.46	0.00	0.00	0.00	5.30	31.76

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CONTINUED - East Storage Room

DESCRIPTION	QTY	RESET	REMOVE	REPLACE	TAX	O&P	TOTAL
27. R&R 1/2" drywall - hung, taped, floated, ready for paint <i>upper east corner of the ceiling and wall</i>	48.00 SF		0.56	3.02	2.13	34.38	208.35
24. R&R Batt insulation - 4" - R15 - paper / foil faced <i>remove insulation along the south wall</i>	32.00 SF		0.32	1.49	1.86	11.58	71.36
58. R&R Batt insulation - 12" - R38 - paper / foil faced	16.00 SF		0.53	2.64	1.73	10.14	62.59
26. Detach & Reset Casing - 3 1/4" <i>window and casing around the door</i>	50.00 LF	2.57	0.00	0.00	0.09	25.70	154.29
92. Floor protection - plastic and tape - 10 mil	133.62 SF		0.00	0.35	0.96	9.36	57.09
42. Mask and prep for paint - plastic, paper, tape (per LF)	52.51 LF		0.00	1.61	0.85	16.90	102.29
29. Seal/prime (1 coat) then paint (1 coat) the walls and ceiling	553.69 SF		0.00	1.15	7.97	127.34	772.05
31. Seal (1 coat) & paint (1 coat) casing	50.00 LF		0.00	1.81	0.51	18.10	109.11
85. Clean and deodorize carpet	133.62 SF		0.00	0.58	0.08	15.50	93.08
34. Final cleaning - construction - Commercial	133.62 SF		0.00	0.28	0.00	7.48	44.89
<i>all surfaced should be wiped according to the mold report recommendations.</i>							
Totals: East Storage Room					16.18	383.78	2,318.87



ESR Closet

Height: 8'

149.33 SF Walls	21.75 SF Ceiling
171.08 SF Walls & Ceiling	21.75 SF Floor
2.42 SY Flooring	18.67 LF Floor Perimeter
18.67 LF Ceil. Perimeter	

DESCRIPTION	QTY	RESET	REMOVE	REPLACE	TAX	O&P	TOTAL
46. Contents - move out then reset - Small room	1.00 EA		0.00	60.87	0.00	12.18	73.05
56. Interior door - Detach & reset - slab only	1.00 EA		0.00	28.79	0.00	5.76	34.55
57. R&R Batt insulation - 12" - R38 - paper / foil faced	21.75 SF		0.53	2.64	2.35	13.78	85.08

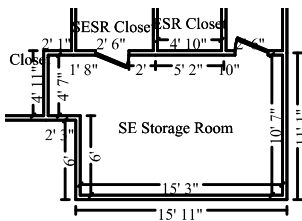
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CONTINUED - ESR Closet

DESCRIPTION	QTY	RESET	REMOVE	REPLACE	TAX	O&P	TOTAL
47. R&R 1/2" drywall - hung, taped, floated, ready for paint	171.08 SF		0.56	3.02	7.60	122.50	742.56
55. Detach & Reset Baseboard - 3 1/4"	18.67 LF	3.61	0.00	0.00	0.03	13.48	80.91
93. Floor protection - plastic and tape - 10 mil	21.75 SF		0.00	0.35	0.16	1.52	9.29
49. Mask and prep for paint - plastic, paper, tape (per LF)	18.67 LF		0.00	1.61	0.30	6.02	36.38
50. Seal/prime (1 coat) then paint (1 coat) the walls and ceiling	171.08 SF		0.00	1.15	2.46	39.34	238.54
51. Seal (1 coat) & paint (1 coat) baseboard	18.67 LF		0.00	1.79	0.17	6.68	40.27
177. Clean and deodorize carpet - heavy staining	21.75 SF		0.00	0.88	0.09	3.82	23.05
54. Final cleaning - construction - Commercial	21.75 SF		0.00	0.28	0.00	1.22	7.31

all surfaced should be wiped according to the mold report recommendations.

Totals: ESR Closet	13.16	226.30	1,370.99
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SE Storage Room

Height: 8'

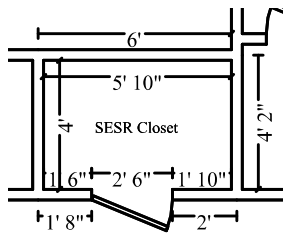
452.07 SF Walls	172.52 SF Ceiling
624.59 SF Walls & Ceiling	172.52 SF Floor
19.17 SY Flooring	56.51 LF Floor Perimeter
56.51 LF Ceil. Perimeter	

DESCRIPTION	QTY	RESET	REMOVE	REPLACE	TAX	O&P	TOTAL
73. Contents - move out then reset - Large room	1.00 EA		0.00	121.63	0.00	24.32	145.95
113. Content Manipulation charge - per hour	2.00 HR		0.00	55.25	0.00	22.10	132.60
<i>detach and reset shelves for painting the room along east wall</i>							
78. Replace Window drapery - hardware - Detach & reset	1.00 EA		0.00	43.91	0.00	8.78	52.69
89. Outlet or switch - Detach & reset	1.00 EA		0.00	25.17	0.00	5.04	30.21
87. Detach & Reset Smoke detector	1.00 EA	67.97	0.00	0.00	0.00	13.60	81.57
88. Detach & Reset Ceiling diffusers/grills - circular - 8"-10" diameter	1.00 EA	26.46	0.00	0.00	0.00	5.30	31.76

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CONTINUED - SE Storage Room

DESCRIPTION	QTY	RESET	REMOVE	REPLACE	TAX	O&P	TOTAL
74. Detach & Reset Fluorescent - four tube - 4' - fixture w/lens	2.00 EA	101.90	0.00	0.00	0.00	40.76	244.56
75. R&R 1/2" drywall - hung, taped, floated, ready for paint	56.00 SF		0.56	3.02	2.49	40.10	243.07
<i>upper east corner of the ceiling and wall</i>							
76. R&R Batt insulation - 4" - R15 - paper / foil faced	56.00 SF		0.32	1.49	3.26	20.26	124.88
<i>remove insulation along the south wall</i>							
77. R&R Batt insulation - 12" - R38 - paper / foil faced	16.00 SF		0.53	2.64	1.73	10.14	62.59
79. R&R Casing - 3 1/4"	50.00 LF		0.68	3.76	7.29	44.40	273.69
<i>door and window trim</i>							
90. Floor protection - plastic and tape - 10 mil	172.52 SF		0.00	0.35	1.24	12.08	73.70
80. Mask and prep for paint - plastic, paper, tape (per LF)	56.51 LF		0.00	1.61	0.92	18.20	110.10
81. Seal/prime (1 coat) then paint (1 coat) the walls and ceiling	624.59 SF		0.00	1.15	8.99	143.66	870.93
82. Seal (1 coat) & paint (1 coat) casing	50.00 LF		0.00	1.81	0.51	18.10	109.11
<i>door and window trim</i>							
86. Clean and deodorize carpet	172.52 SF		0.00	0.58	0.10	20.02	120.18
83. Final cleaning - construction - Commercial	172.52 SF		0.00	0.28	0.00	9.66	57.97
<i>all surfaced should be wiped according to the mold report recommendations.</i>							
Totals: SE Storage Room					26.53	456.52	2,765.56


SESR Closet
Height: 8'

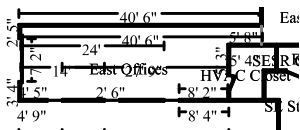
157.33 SF Walls	23.33 SF Ceiling
180.67 SF Walls & Ceiling	23.33 SF Floor
2.59 SY Flooring	19.67 LF Floor Perimeter
19.67 LF Ceil. Perimeter	

DESCRIPTION	QTY	RESET	REMOVE	REPLACE	TAX	O&P	TOTAL
60. Contents - move out then reset - Small room	1.00 EA		0.00	60.87	0.00	12.18	73.05

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CONTINUED - SESR Closet

DESCRIPTION	QTY	RESET	REMOVE	REPLACE	TAX	O&P	TOTAL
62. Interior door - Detach & reset - slab only	1.00 EA		0.00	28.79	0.00	5.76	34.55
72. Detach & Reset Ductwork - hot or cold air	5.80 LF	31.60	0.00	0.00	0.04	36.66	219.98
61. R&R Batt insulation - 12" - R38 - paper / foil faced	23.33 SF		0.53	2.64	2.52	14.80	91.27
63. R&R 1/2" drywall - hung, taped, floated, ready for paint	23.33 SF		0.56	3.02	1.04	16.72	101.28
64. R&R Baseboard - 3 1/4"	19.67 LF		0.61	4.48	2.25	20.02	122.39
173. R&R Casing - 3 1/4"	25.00 LF		0.68	3.76	3.65	22.20	136.85
door and window trim							
174. Seal (1 coat) & paint (1 coat) casing	25.00 LF		0.00	1.81	0.26	9.06	54.57
door and window trim							
94. Floor protection - plastic and tape - 10 mil	23.33 SF		0.00	0.35	0.17	1.64	9.98
65. Mask and prep for paint - plastic, paper, tape (per LF)	19.67 LF		0.00	1.61	0.32	6.34	38.33
66. Seal/prime (1 coat) then paint (1 coat) the walls and ceiling	180.67 SF		0.00	1.15	2.60	41.56	251.93
67. Seal (1 coat) & paint (1 coat) baseboard	19.67 LF		0.00	1.79	0.18	7.04	42.43
68. Clean carpet shampoo machine - Heavy clean	1.00 EA		0.00	35.56	0.06	7.12	42.74
didn't see a need to remove any carpet a heavy clean should be good. Mold report findings show that it should be abrasively cleaned.							
69. Final cleaning - construction - Commercial	23.33 SF		0.00	0.28	0.00	1.30	7.83
all surfaced should be wiped according to the mold report recommendations.							
Totals: SESR Closet					13.09	202.40	1,227.18



East Offices

Height: 8'

818.67 SF Walls
1,260.33 SF Walls & Ceiling
49.07 SY Flooring
102.33 LF Ceil. Perimeter

441.67 SF Ceiling
441.67 SF Floor
102.33 LF Floor Perimeter

Missing Wall

3' X 8'

Opens into HALLWAY

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CONTINUED - East Offices

DESCRIPTION	QTY	RESET	REMOVE	REPLACE	TAX	O&P	TOTAL
95. Contents - move out then reset - Extra large room	1.00 EA		0.00	243.27	0.00	48.66	291.93
120. French double door set - Detach & reset	1.00 EA		0.00	139.44	0.07	27.88	167.39
123. Replace Exit sign - Detach & reset	3.00 EA		0.00	91.25	0.00	54.76	328.51
99. Replace Window drapery - hardware - Detach & reset	3.00 EA		0.00	43.91	0.00	26.34	158.07
171. Outlet or switch - Detach & reset	6.00 EA		0.00	25.17	0.00	30.20	181.22
117. Detach & Reset Smoke detector	3.00 EA	67.97	0.00	0.00	0.00	40.78	244.69
97. Detach & Reset Fluorescent - four tube - 4' - fixture w/lens	12.00 EA	101.90	0.00	0.00	0.00	244.56	1,467.36
127. Install Emergency lighting - battery - Commercial	1.00 EA		0.00	91.25	0.00	18.26	109.51
128. Replace Emergency lighting - battery - Commercial	1.00 EA		0.00	326.79	14.13	65.36	406.28
118. Detach & Reset Ceiling diffusers/grills - circular - 6" diameter	6.00 EA	26.46	0.00	0.00	0.00	31.76	190.52
111. Replace TV Brackets - Wall or ceiling mounted - Detach & reset	1.00 EA		0.00	59.97	0.00	12.00	71.97
98. R&R Batt insulation - 4" - R15 - paper / foil faced	241.10 SF		0.32	1.49	14.03	87.28	537.70
<i>if more insulation needs to be replaced we would need to submit a change order. It is unknown at this time.</i>							
147. Drywall tape joint / repair - per LF	40.60 LF		0.00	9.83	1.19	79.82	480.11
119. Drywall Installer / Finisher - per hour	2.50 HR		0.00	106.15	0.00	53.08	318.46
<i>extra labor hours to rebuild soffit area; and this could be unknown damage underneath the damaged area if more repairs would be needed we would need to submit a change order.</i>							
101. R&R 1/2" drywall - hung, taped, floated, ready for paint	241.10 SF		0.56	3.02	10.70	172.62	1,046.46
102. R&R Baseboard - 3 1/4"	51.17 LF		0.61	4.48	5.86	52.08	318.39
<i>only two affected walls</i>							
153. Prime & paint heat register	3.00 EA		0.00	15.66	0.59	9.40	56.97
103. Floor protection - plastic and tape - 10 mil	441.67 SF		0.00	0.35	3.18	30.92	188.68
104. Mask and prep for paint - plastic, paper, tape (per LF)	102.33 LF		0.00	1.61	1.66	32.96	199.37
106. Seal/prime (1 coat) then paint (1 coat) the walls and ceiling	1,260.33 SF		0.00	1.15	18.15	289.88	1,757.41
107. Seal (1 coat) & paint (1 coat) baseboard	102.33 LF		0.00	1.79	0.92	36.64	220.73

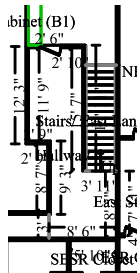
Anytime Restoration Services
6655 Chicago Rd
Warren, MI 48092
Main: 1-855-350-0333 Web: AnytimeRestorationServices.com
Tax Id #: 20-0480830

CONTINUED - East Offices

DESCRIPTION	QTY	RESET	REMOVE	REPLACE	TAX	O&P	TOTAL
109. Clean and deodorize carpet	441.67 SF		0.00	0.58	0.27	51.24	307.68
110. Final cleaning - construction - Commercial	441.67 SF		0.00	0.28	0.00	24.74	148.41

all surfaced should be wiped according to the mold report recommendations.

Totals: East Offices					70.75	1,521.22	9,197.82
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Hallway

Height: 8'

505.20 SF Walls	166.95 SF Ceiling
672.16 SF Walls & Ceiling	166.95 SF Floor
18.55 SY Flooring	63.15 LF Floor Perimeter
63.15 LF Ceil. Perimeter	

Missing Wall

3' X 8'

Opens into EAST_OFFICES

Missing Wall

3' 11" X 8'

Opens into STAIRS__EAST

DESCRIPTION	QTY	RESET	REMOVE	REPLACE	TAX	O&P	TOTAL
159. Contents - move out then reset - Small room	1.00 EA		0.00	60.87	0.00	12.18	73.05
179. Outlet or switch - Detach & reset	4.00 EA		0.00	25.17	0.00	20.14	120.82
169. Replace Thermostat - Detach & reset	1.00 EA		0.00	64.75	0.00	12.96	77.71
160. Detach & Reset Fluorescent - four tube - 4' - fixture w/lens	2.00 EA	101.90	0.00	0.00	0.00	40.76	244.56
172. Replace Exit sign - Detach & reset	1.00 EA		0.00	91.25	0.00	18.26	109.51
132. Detach & Reset Ceiling diffusers/grills - circular - 6" diameter	1.00 EA	26.46	0.00	0.00	0.00	5.30	31.76
167. Drywall patch / small repair, ready for paint	2.00 EA		0.00	95.52	0.54	38.20	229.78

ceiling area near access panel to attic area

151. Drywall tape joint / repair - per LF	8.00 LF		0.00	9.83	0.24	15.72	94.60
170. Prime & paint heat register	1.00 EA		0.00	15.66	0.20	3.14	19.00
161. Seal (1 coat) & paint (1 coat) baseboard	17.20 LF		0.00	1.79	0.15	6.16	37.10
162. Floor protection - plastic and tape - 10 mil	166.95 SF		0.00	0.35	1.20	11.68	71.31

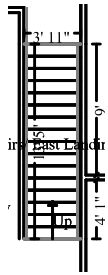
Anytime Restoration Services
 6655 Chicago Rd
 Warren, MI 48092
 Main: 1-855-350-0333 Web: AnytimeRestorationServices.com
 Tax Id #: 20-0480830

CONTINUED - Hallway

DESCRIPTION	QTY	RESET	REMOVE	REPLACE	TAX	O&P	TOTAL
163. Mask and prep for paint - plastic, paper, tape (per LF)	63.15 LF		0.00	1.61	1.02	20.34	123.03
164. Seal/prime (1 coat) then paint (1 coat) the walls and ceiling	672.16 SF		0.00	1.15	9.68	154.60	937.26
165. Clean and deodorize carpet	166.95 SF		0.00	0.58	0.10	19.36	116.29
166. Final cleaning - construction - Commercial	166.95 SF		0.00	0.28	0.00	9.36	56.11

all surfaced should be wiped according to the mold report recommendations.

Totals: Hallway		13.13	388.16	2,341.89
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Stairs/ East Landing

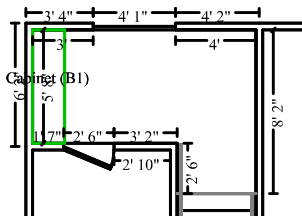
Height: 14' 10"

306.86 SF Walls	52.55 SF Ceiling
359.41 SF Walls & Ceiling	82.07 SF Floor
9.12 SY Flooring	29.79 LF Floor Perimeter
26.83 LF Ceil. Perimeter	

Missing Wall

3' 11" X 14' 10 7/16"

Opens into HALLWAY



Subroom: Stairs1 (1)

Height: 8'

276.13 SF Walls	72.23 SF Ceiling
348.36 SF Walls & Ceiling	72.23 SF Floor
8.03 SY Flooring	34.52 LF Floor Perimeter
34.52 LF Ceil. Perimeter	

Missing Wall

3' 11" X 8'

Opens into STAIRS__EAST

DESCRIPTION	QTY	RESET	REMOVE	REPLACE	TAX	O&P	TOTAL
154. Contents - move out then reset - Small room	1.00 EA		0.00	60.87	0.00	12.18	73.05
158. Replace Window drapery - hardware - Detach & reset	1.00 EA		0.00	43.91	0.00	8.78	52.69
136. Detach & Reset Handrail - detailed profile - softwood - wall mounted	27.00 LF	8.10	0.00	0.00	0.00	43.74	262.44
156. Install Emergency lighting - battery - Commercial	1.00 EA		0.00	91.25	0.00	18.26	109.51



Anytime Restoration

Anytime Restoration Services
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Tax Id #: 20-0480830

CONTINUED - Stairs/ East Landing

DESCRIPTION	QTY	RESET	REMOVE	REPLACE	TAX	O&P	TOTAL
157. Replace Emergency lighting - battery - Commercial	1.00 EA		0.00	326.79	14.13	65.36	406.28
137. Detach & Reset Fluorescent - one tube - 2' - fixture w/lens	1.00 EA	101.90	0.00	0.00	0.00	20.38	122.28
152. Drywall tape joint / repair - per LF	15.00 LF		0.00	9.83	0.44	29.50	177.39
145. Painter - per hour	1.50 HR		0.00	81.00	0.00	24.30	145.80
<i>paint soffit area in the stairway</i>							
180. Seal (1 coat) & paint (1 coat) baseboard	64.30 LF		0.00	1.79	0.58	23.02	138.70
139. Floor protection - plastic and tape - 10 mil	154.30 SF		0.00	0.35	1.11	10.80	65.92
140. Mask and prep for paint - plastic, paper, tape (per LF)	61.35 LF		0.00	1.61	0.99	19.76	119.52
146. Additional cost for high wall or ceiling - Over 14'	124.77 SF		0.00	0.11	0.00	2.74	16.46
141. Seal/prime (1 coat) then paint (1 coat) the walls and ceiling	707.76 SF		0.00	1.15	10.19	162.78	986.89
178. Clean carpet - cleaning charge per step	17.00 EA		0.00	5.98	0.06	20.34	122.06
142. Clean and deodorize carpet	154.30 SF		0.00	0.58	0.09	17.90	107.48
143. Final cleaning - construction - Commercial	154.30 SF		0.00	0.28	0.00	8.64	51.84
<i>all surfaced should be wiped according to the mold report recommendations.</i>							
Totals: Stairs/ East Landing					27.59	488.48	2,958.31
Total: Main Level					230.61	4,686.40	28,347.95

Labor Minimums Applied

DESCRIPTION	QTY	RESET	REMOVE	REPLACE	TAX	O&P	TOTAL
112. Finish hardware labor minimum	1.00 EA		0.00	124.31	0.00	24.86	149.17
Totals: Labor Minimums Applied					0.00	24.86	149.17
Line Item Totals: ALEXANDER_BLUE_HOUSE					230.61	4,711.26	28,497.12



Anytime Restoration

Anytime Restoration Services
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Tax Id #: 20-0480830

Grand Total Areas:

3,875.00	SF Walls	1,410.25	SF Ceiling	5,285.25	SF Walls and Ceiling
1,439.77	SF Floor	159.97	SY Flooring	475.81	LF Floor Perimeter
0.00	SF Long Wall	0.00	SF Short Wall	472.85	LF Ceil. Perimeter
1,439.77	Floor Area	1,527.81	Total Area	2,942.95	Interior Wall Area
1,894.05	Exterior Wall Area	210.45	Exterior Perimeter of Walls		
0.00	Surface Area	0.00	Number of Squares	0.00	Total Perimeter Length
0.00	Total Ridge Length	0.00	Total Hip Length		



Anytime Restoration

Anytime Restoration Services
6655 Chicago Rd
Warren, MI 48092
Main: 1-855-350-0333 Web: AnytimeRestorationServices.com
Tax Id #: 20-0480830

Summary

Line Item Total	23,555.25
Overhead	2,355.63
Profit	2,355.63
Material Sales Tax	230.61
Replacement Cost Value	\$28,497.12
Net Claim	\$28,497.12

Dawn Sommer
Construction Estimator



Anytime Restoration

Anytime Restoration Services
6655 Chicago Rd
Warren, MI 48092
Main: 1-855-350-0333 Web: AnytimeRestorationServices.com
Tax Id #: 20-0480830

Recap of Taxes, Overhead and Profit

	Overhead (10%)	Profit (10%)	Material Sales Tax (6%)	Storage Tax (6%)
Line Items	2,355.63	2,355.63	230.61	0.00
Total	2,355.63	2,355.63	230.61	0.00



Anytime Restoration

Anytime Restoration Services
6655 Chicago Rd
Warren, MI 48092
Main: 1-855-350-0333 Web: AnytimeRestorationServices.com
Tax Id #: 20-0480830

Recap by Room

Estimate: ALEXANDER_BLUE_HOUSE

Area: Main Level		
General	1,424.12	6.05%
NE Storage Room	3,673.49	15.60%
East Storage Room	1,918.91	8.15%
ESR Closet	1,131.53	4.80%
SE Storage Room	2,282.51	9.69%
SESR Closet	1,011.69	4.29%
East Offices	7,605.85	32.29%
Hallway	1,940.60	8.24%
Stairs/ East Landing	2,442.24	10.37%
Area Subtotal: Main Level	23,430.94	99.47%
Labor Minimums Applied	124.31	0.53%
Subtotal of Areas	23,555.25	100.00%
Total	23,555.25	100.00%

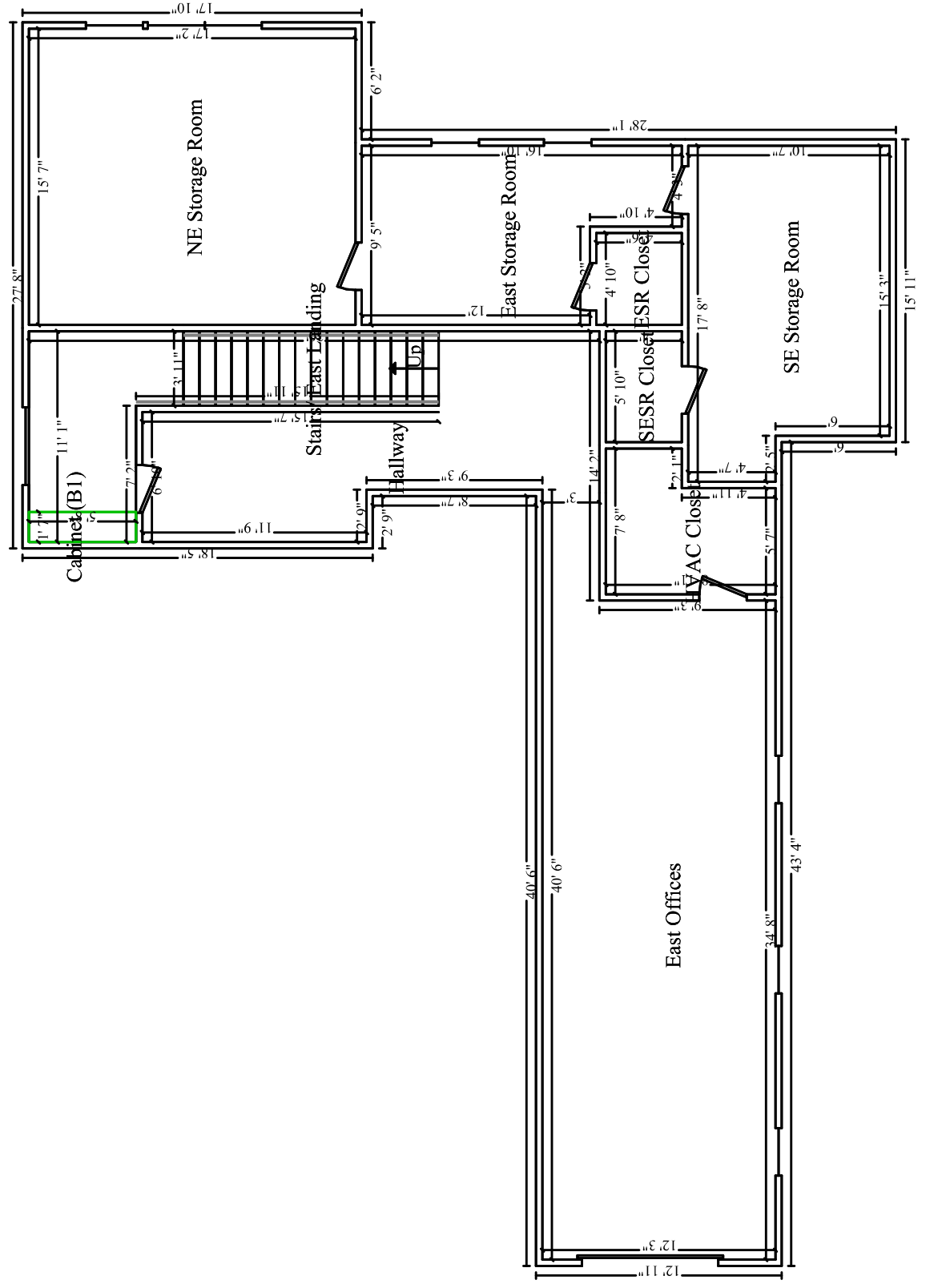


Anytime Restoration

Anytime Restoration Services
6655 Chicago Rd
Warren, MI 48092
Main: 1-855-350-0333 Web: AnytimeRestorationServices.com
Tax Id #: 20-0480830

Recap by Category

O&P Items	Total	%
CONT: CLEAN APPLIANCES	35.56	0.12%
CLEANING	1,282.87	4.50%
CONTENT MANIPULATION	1,735.64	6.09%
GENERAL DEMOLITION	1,390.99	4.88%
DOORS	225.81	0.79%
DRYWALL	3,126.48	10.97%
ELECTRICAL	616.72	2.16%
FINISH CARPENTRY / TRIMWORK	1,457.62	5.11%
FINISH HARDWARE	184.28	0.65%
HEAT, VENT & AIR CONDITIONING	512.63	1.80%
INSULATION	898.87	3.15%
LIGHT FIXTURES	3,544.78	12.44%
PAINTING	8,103.90	28.44%
WINDOW TREATMENT	439.10	1.54%
O&P Items Subtotal	23,555.25	82.66%
Overhead	2,355.63	8.27%
Profit	2,355.63	8.27%
Material Sales Tax	230.61	0.81%
Total	28,497.12	100.00%



**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD JULY 07, 2025**

6.

Meeting was called to order at 9:08 p.m. by Vice President Ptashnik. Present: Scott Morgan, Laura Toy, Rob Donovic, Carrie Budzinski, Lynda Scheel, and Vice President Ptashnik. Absent: Council President McCullough.

Elected and appointed officials present: Carter Fisher, City Attorney; Lori L. Miller, City Clerk; Mark Taormina, City Planner and Economic Development Director; Dave Lear, Assistant City Engineer.

Councilmember Toy led the meeting with the Pledge of Allegiance.

10. AWARD OF BID: Department of Parks and Recreation, re: the replacement of the medium in the sand filters at the Jack E. Kirksey Recreation Center for the leisure pool and spa, from budgeted funds.

Ted Davis, Superintendent of Parks and Recreation, requested an award of bid to replace sand filters with a glass medium which should be more effective.

Motion was made by Councilmember Morgan to put the matter on the Consent portion of the next Regular Agenda.

DIRECTION:

APPROVING

CONSENT



LETTER TO THE LIVONIA CITY COUNCIL

10.

Parks and Recreation June 3, 2025

MEETING DATE

S070725/R072125

PRESENTED BY

Ted Davis, CPRP, Superintendent of Parks and Recreation

AGENDA ITEM

AWARD OF BID: Department of Parks and Recreation, re: the replacement of the medium in the sand filters at the Jack E. Kirksey Recreation Center for the leisure pool and spa, from budgeted funds.

BACKGROUND DETAILS

The Department of Parks and Recreation is requesting your approval to replace the medium in our sand filters at the Jack E. Kirksey Recreation Center for the Leisure Pool and Spa. This is a routine maintenance item that occurs every 7-10 years, with our last replacement in 2017.

Specifications were prepared by the Department, and an advertisement for bids was placed on the MITN website. Three (3) companies submitted bids, which were opened in the presence of the Bid Committee at 2:00 p.m. on May 13, 2025.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

We are asking Council to award the bid to Baruzzini Contracting, LLC, 1281 S. Old US HWY 23, Brighton, MI 48114 as the lowest qualified bidder on the project for an amount not to exceed \$38,779.55. We are also requesting the upgrade in media to glass.

SPECIFIC NAME OF PRODUCT AND NUMBER TO BE PURCHASED (if more than one)

N/A

CONTRACT: Amount and/or purchase price and length of contract (with dates if applicable)

\$38,779.55

DETAILED WORK BEING PERFORMED

Replacement of medium in sand filters at the Jack E. Kirksey Recreation Center leisure pool and spa.

FISCAL CONSIDERATIONS (Amount requested and Account(s) used. If applicable, Grant Funding information)

\$38,779.55 from 208-755-987-000

ACCEPTANCE OF BID (Please detail the following: Why accepted, why not lowest bidder, company name, contact person, full address)

This is the lowest qualified bidder.

REASON TO WAIVE BID PROCESS (Emergency, Professional services, No advantage to City and why, Consortium package, etc): N/A

ATTACHMENTS

1. 2025 Leisure Spa Pool Sand Change

APPROVED BY



Ted Davis, CPRP, Superintendent of Parks and Recreation

Date: June 04, 2025



Debra Peck Lichtenberg, CPA, Finance Director

Date: June 06, 2025



Carter Fisher, City Attorney

Date: June 06, 2025



Maureen Miller Brosnan, Mayor

Date: June 09, 2025



Pool Filter Sand Change

Project Location

Livonia Recreation Center

15100 Hubbard

Livonia, MI 48154

NOTICE TO BIDDERS

The City of Livonia will officially distribute bid documents through the Michigan Intergovernmental Trade Network (MITN), www.mitn.com. Copies of bid documents obtain from any other source are not considered official copies. The City of Livonia cannot guarantee the accuracy of any information not obtained from the MITN website and is not responsible for any errors contained by any information received from alternate sources. Only those vendors who obtain bid documents from the MITN system are guaranteed access to receive addendum information, if such information is issued. If you obtained this document from a source other than the source indicated, it is recommended that you register on the MITN site, www.mitn.info to obtain an official copy. This bid is issued by the City of Livonia Department of Parks and Recreation.

Important Dates

Project must be completed between July 7 and August 1, 2025

Bid Documents Available: April 29, 2025

Pre- Bid Site Visit: Mandatory visit not required

Last Day to accept questions: May 2, 2025

Bid Due Date: **May 13, 2025**

Pre-Bid Site Visits

Pre-Bid site visits may be scheduled by appointment with Becky Burnard at rburnard@livonia.gov or 734-466-2925.

Post-Bid Interviews

Interviews will be scheduled with contractors if needed.

BID SUBMITTALS

An ORIGINAL bid must be submitted. No other distribution of the bids will be made by the Contractor. A copy of the RFP must also be provided to the City of Livonia electronically in Adobe Acrobat (PDF) format.

The Department of Parks and Recreation will only accept bids downloaded electronically on the MITN website in Adobe Acrobat (PDF) format. Bids must also be signed and submitted by an official authorized to Contractor to its provision.

RESPONSIVE BIDS

All pages and the information requested herein shall be furnished completely in compliance with instructions. The manner and format of submission is essential to permit prompt evaluation of all bids on a fair and uniform basis. Accordingly, the City reserves the right to declare as non-responsive and reject an incomplete bid if material information requested is not furnished, or where indirect or incomplete answers or information is not provided. Any exceptions on the specification must be noted on the bid form.

INSTRUCTIONS TO BIDDERS

Please provide at least three (3) references, with contact name and phone number, of similar projects that you have done in the last five years.

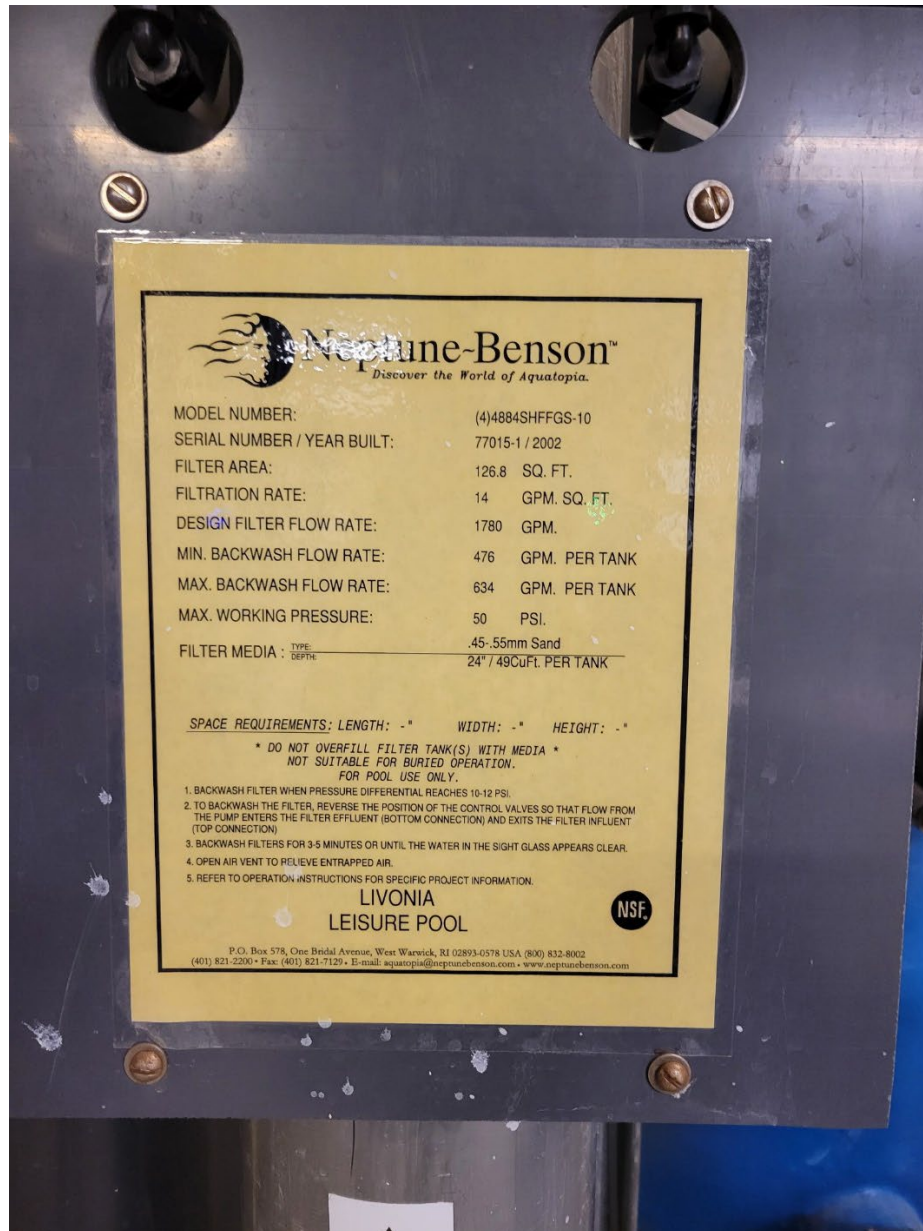
Project Scope

1. Bid submission must include total work time needed to complete the project. Lead time for materials must also be included.
2. All required permits, licenses, inspections, approvals and fees for installation and demolition work shall be secured, submitted, and paid for by the contractor, to any and all agencies. All work shall conform to all applicable codes, rules, and regulations.
3. Contractor is responsible for sand filter and components, in addition to everything as stated herein for the duration of project.
 - a. In the event of damage, the contractor shall provide whatever monetary and labor means deemed necessary, as directed by the City of Livonia, to repair or replace and complete all work as described with the same standards.
4. Quantities shown herein or on the drawings are approximate and are provided for general information purposes only. Any quantities or measurements stated are estimates only and each contractor is responsible for taking their own measurements

Leisure Pool Filter Sand Replacement

1. Remove and replace sand from four (4) Neptune-Benson Filters. Model # (4)4884SHFFGS-10. Serial Number/Year built 77015-1/ 2002 (see attached manufacturer description plate below)
2. Contractor is responsible for having staff present while the City Vac-Truck is removing sand and cleanliness of the job site.
3. City will use a Vac-Truck to clean out sand from the tanks and dispose of the sand.
4. Filter media should be replaced with .45-.55mm sand with a depth of 24in/49CuFt. Per Tank or approved equivalent.
5. Remove and replace all internal lateral piping.
6. Replace all manway gaskets.
7. Start-up filters with water flow to test system for leaks and proper operation
8. Work must be completed between July 7 and August 1, 2025, you will have to come back to restart it once we have water back in the pool. We will give you a 3-5 day window.

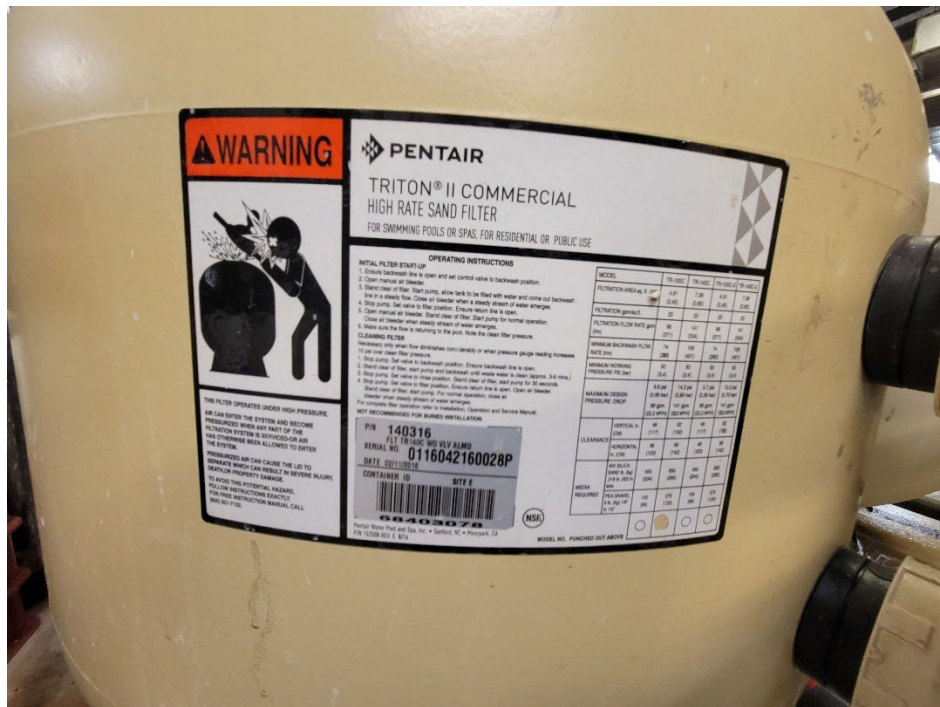
Leisure Filter Tags



Spa Filter Sand Replacement

1. Remove and replace sand from two (2) Pentair Triton II TR-140 filters. See pictures/labels below
2. Contractor is responsible for having staff present while the City Vac-Truck is removing sand and cleanliness of the job site.
3. City will use a Vac-Truck to clean out sand from the tanks and dispose of the sand.
4. Replace internal laterals on both filters
5. Use filter media .45-.55mm approved for Pentair Triton II filters
6. Replace Dome O-Ring on both filters
7. Startup system with water flow to test for leaks and proper operation
8. Work must be completed Between July 7 and August 1, 2025, you will have to come back to restart it once we have water back in the pool. We will give you a 3-5 day window.

Spa Filter #1



Spa Filter #2



FORM OF PROPOSAL
For
POOL FILLER SAND CHANGE

Bid of Baruzzini Contracting, LLC hereinafter called Bidder,
organized and existing under the laws of or a resident of the State of Michigan, doing business
as Baruzzini Aquatics *.

* Insert as applicable: "a corporation", "a partnership" or "an individual" TO

THE CITY OF LIVONIA, MICHIGAN, hereinafter called OWNER:

The undersigned as Bidder hereby declares: that this Bid is made in good faith without
fraud or collusion with any person or persons bidding on the same Contract; that the Bidder has
read and examined the Notice to Bidders, Instructions to Bidders, Bid, General Conditions,
Agreement, Forms of Proposal, and understands all of the same; that the Bidder or its
representative has made personal investigation at the site and has become fully familiar with
regard to the conditions to be met in the execution of this Contract, and the undersigned
proposes to furnish all labor, materials, tools, power, transportation, and construction
equipment necessary for the construction of the Project and performing related work in full
accordance with the aforesaid Contract Documents, including any and all Addenda officially
issued, their receipt of which is hereby acknowledged:

Addendum No.	Addendum Date
<u>N/A</u>	<u>N/A</u>
<u> </u>	<u> </u>
<u> </u>	<u> </u>

The Contract will be awarded to the lowest responsive, responsible Bidder based on the unit prices
for all Work specified.

The Bidder agrees to complete the Project for the following unit prices:

Item No.	Item Description	Total Price (\$)
1	Material Cost (Sand filler and components, replace lateral piping, all manway gaskets, replace Dome O rings)	\$ 24,522.55
2	Material Lead Time	3-4 weeks
3	Labor Cost	\$ 8,800.00
4	Estimate Time to Complete Project (days) 4 days + 2 days vac truck	
TOTAL COST		\$ 33,322.55

Voluntary add to upgrade to glass filter media + 5,457.00
Total = \$38,779.55

If the foregoing Bid shall be accepted by the OWNER, the undersigned agrees to enter into the attached form of Agreement within ten (10) days after receiving notice of such acceptance, will furnish the OWNER satisfactory bonds and certificates of insurance coverage, and will complete the Project, at the price and within the time stated in this Bid.

The undersigned further agrees that if the foregoing Bid shall be accepted, work will commence immediately after the Contract has been awarded, the Agreement executed, and a Notice to Proceed received. **The undersigned shall complete the Work between July 7 and August 1, 2025.**

In submitting this Bid, it is understood that the right is reserved by the OWNER to accept any bid, to reject any or all Bids, and to waive irregularities in bidding in the interest of the OWNER.

SUBMITTED on 5.12.25 _____
Date*
1281 S. Old US HWY 23 _____
Street*
Brighton, MI 48114 _____
City, State, ZIP*
810.229.8996 _____
Telephone Number*
810.229.1874 _____
Facsimile Number*

BY: Baruzzini Contracting, LLC _____
Name of Bidder*

Signature
Anthony Baruzzini, Member _____
Name and Title of Signatory*

*Typed or printed in ink.

Form of Proposal and all other bid documents to be submitted electronically following the instructions provided in the "Notice to Bidders" and "Instruction to Bidders" sections.

BID OPENING SHEET
POOL FILLER SAND CHANGE

DUE DATE: 5/13/2025

VENDOR NAME	Advanced Pool Services, Inc	B and B Pools and Spas
CITY/STATE	PO Box 233, Milford, MI 48001	31071 Industrial Road, Livonia, MI 48150
MATERIAL COST	\$18,750	\$32,528.33
MATERIAL LEAD TIME	4 weeks	4-6 weeks
LABOR COST	\$18,000	\$14,971.67
ESTIMATE TIME TO COMPLETE PROJECT (days)	10	5-10
TOTAL COST	\$36,750	\$47,500

VENDOR NAME	Baruzzini Contracting LLC	
CITY/STATE	1281 S. Old US Hwy 23, Brighton, MI 48114	
MATERIAL COST	\$24,522.55	
MATERIAL LEAD TIME	3-4 weeks	
LABOR COST	\$8,800	
ESTIMATE TIME TO COMPLETE PROJECT (days)	6 days	
TOTAL COST	\$33,322.55 Optional: +\$5,457 Glass media (Total: 38,779.55)	

CITY REPRESENTATIVES: Aaron Lindenmuth, Clerk's Office, Gus Kandah, Purchasing Manager

**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD JULY 07, 2025**

7.

Meeting was called to order at 9:08 p.m. by Vice President Ptashnik. Present: Scott Morgan, Laura Toy, Rob Donovic, Carrie Budzinski, Lynda Scheel, and Vice President Ptashnik. Absent: Council President McCullough.

Elected and appointed officials present: Carter Fisher, City Attorney; Lori L. Miller, City Clerk; Mark Taormina, City Planner and Economic Development Director; Dave Lear, Assistant City Engineer.

Councilmember Toy led the meeting with the Pledge of Allegiance.

11. REQUEST TO CONSIDER THE PROPOSED NAME FOR THE NEW SENIOR FACILITY:
Department of Parks and Recreation re: the naming of the new senior facility as the Livonia Senior Wellness Center.

Ted Davis, Superintendent of Parks and Recreation, mentioned a proposed name for the new senior facility being the Livonia Senior Wellness Center.

Motion was made by Councilmember Scheel to put the matter on the Consent portion of the next Regular Agenda.

DIRECTION:

APPROVING

CONSENT



LETTER TO THE LIVONIA CITY COUNCIL

11.

Parks and Recreation
June 16, 2025

MEETING DATE

S070725/R072125

PRESENTED BY

Ted Davis, CPRP, Superintendent of Parks and Recreation

AGENDA ITEM

REQUEST TO CONSIDER THE PROPOSED NAME FOR THE NEW SENIOR FACILITY:
Department of Parks and Recreation re: the naming of the new senior facility as the Livonia Senior Wellness Center.

BACKGROUND DETAILS

The Parks and Recreation Commission respectfully requests your concurrence in the proposed naming of the new Senior Facility attached to the Jack E. Kirksey Recreation Center, the Livonia Senior Wellness Center.

The Parks and Recreation Commission discussed this topic at its June 4, 2025 meeting. The Commission recommends that the City Council name the senior facility, which we have commonly referred to, to show our community commitment to wellness and Livonia's aspiration to be one of the healthiest cities in the country.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

To name the new senior facility, the Livonia Senior Wellness Center.

ATTACHMENTS

None

APPROVED BY

A handwritten signature in black ink, appearing to read "Ted Davis".

Date: June 16, 2025

Ted Davis, CPRP, Superintendent of Parks and Recreation

A handwritten signature in blue ink, appearing to read "Carter Fisher".

Date: June 20, 2025

Carter Fisher, City Attorney

Maureen Miller Brosnan

Date: June 20, 2025

Maureen Miller Brosnan, Mayor

**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD JULY 07, 2025**

8.

Meeting was called to order at 9:08 p.m. by Vice President Ptashnik. Present: Scott Morgan, Laura Toy, Rob Donovic, Carrie Budzinski, Lynda Scheel, and Vice President Ptashnik. Absent: Council President McCullough.

Elected and appointed officials present: Carter Fisher, City Attorney; Lori L. Miller, City Clerk; Mark Taormina, City Planner and Economic Development Director; Dave Lear, Assistant City Engineer.

Councilmember Toy led the meeting with the Pledge of Allegiance.

12. AWARD OF BID: Department of Public Works, re: the generator replacement at Fire Stations 3 and 6 and DPW Building Maintenance building 13, as part of the Generator Replacement Program, from budgeted funds.

Don Rohraff, Public Works Director, spoke about previous plans for replacements but the bids were higher than anticipated. The new generators will effectively power the entire Fire Station rather than granting partial power.

Motion was made by Councilmember Morgan to put the matter on the Consent portion of the next Regular Agenda.

DIRECTION:

APPROVING

CONSENT



LETTER TO THE LIVONIA CITY COUNCIL

12.

DPW
June 17, 2025

MEETING DATE

S070725/R072125

PRESENTED BY

Douglas L. Moore, MSA, Assistant Director of Public Works

AGENDA ITEM

AWARD OF BID: Department of Public Works, re: the generator replacement at Fire Stations 3 and 6 and DPW Building Maintenance building 13, as part of the Generator Replacement Program, from budgeted funds.

BACKGROUND DETAILS

On April 10, 2025, the Department of Public Works, in conjunction with the city's QBS approved (#378-20) architectural firm, DLZ, posted a request on MITN for the replacement of generators for Fire Stations #3 and #6, as well as the Building Maintenance building (#13) at the DPW yard. Bids were received from five (5) companies and opened on May 6, 2025. After a careful review of the bids received, and further vetting of the winning bidder by DLZ, it was determined to award the project to the lowest bidder, American Generators, 6158 Delfield Dr., Suite C, Waterford, MI 48329

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

Award the generator replacement project to the low bidder, American Generators, 6158 Delfield Dr., Suite C, Waterford, MI 48329, for a total cost of \$989,591.99, from funds budgeted in GL# 401-000-976-000.

SPECIFIC NAME OF PRODUCT AND NUMBER TO BE PURCHASED (if more than one)

Blue Star Generators (3), price varies by required size.

CONTRACT: Amount and/or purchase price and length of contract (with dates if applicable)

\$989,591.99

DETAILED WORK BEING PERFORMED

Installation of three (3) new generators, FS#3, FS#6 and DPW Building Maintenance Bldg. (#13)

FISCAL CONSIDERATIONS (Amount requested and Account(s) used. If applicable, Grant Funding information)

\$989,591.99

401-000-976-000

ACCEPTANCE OF BID (Please detail the following: Why accepted, why not lowest bidder, company name, contact person, full address)

award to lowest bidder

REASON TO WAIVE BID PROCESS (Emergency, Professional services, No advantage to City and why, Consortium package, etc): n/a

ATTACHMENTS

1. 2142-7258-09_LIVONIA GENERATOR DRAWINGS_COMBINED_JULY 10 2024 FINAL (3) (1)
2. 2142-7258-09_LIVONIA GENERATOR_PROJECT MANUAL AND SPECIFICATIONS_JULY 10 2024 (3)
3. 2142-7258-09_LIVONIA GENERATOR_REQUEST FOR RE BID_APRIL 10 2025 Final (1)
4. BID TAB-MAY 6 2025
5. Livonia Generator - Add - Drawings (2)
6. Livonia Generator - Add - Specifications (1)
7. Livonia Generator - Addendum (1)
8. Livonia Generator-Bid Recommendation DLZ
9. Livonia_Generator_Clarifications_Addendum III (1)

APPROVED BY



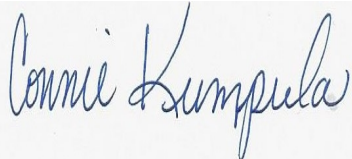
Date: June 17, 2025

Douglas L. Moore, MSA, Assistant Director of Public Works



Date: June 18, 2025

Don Rohraff, Director of Public Works



Date: June 23, 2025

Connie Kumpula, Chief Accountant



Date: June 23, 2025

Carter Fisher, City Attorney

Maureen Miller Brosnan

Date: June 23, 2025

Maureen Miller Brosnan, Mayor

CITY OF LIVONIA

LIVONIA GENERATORS

LIVONIA, MI

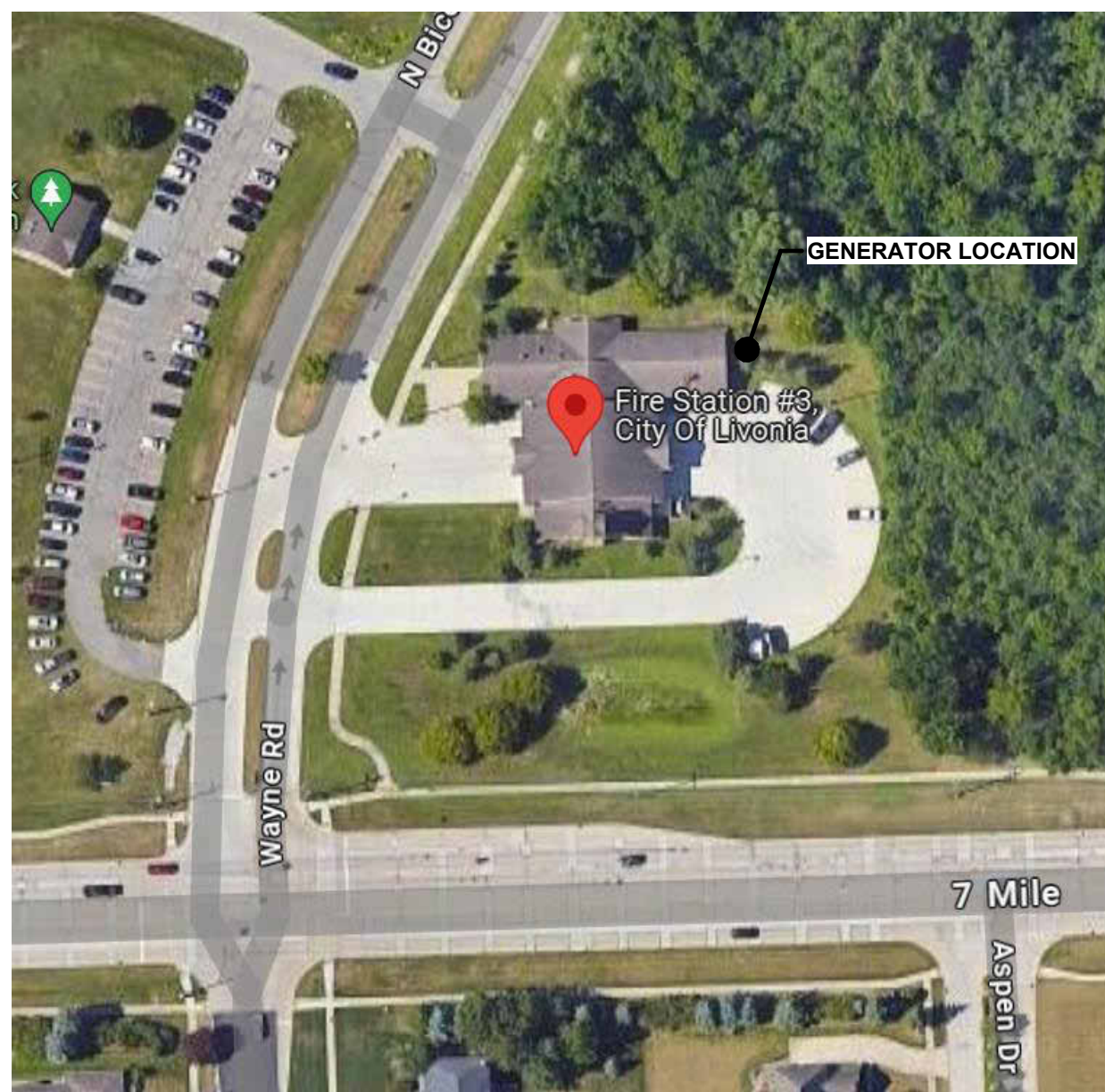
100% DESIGN

06-03-2024

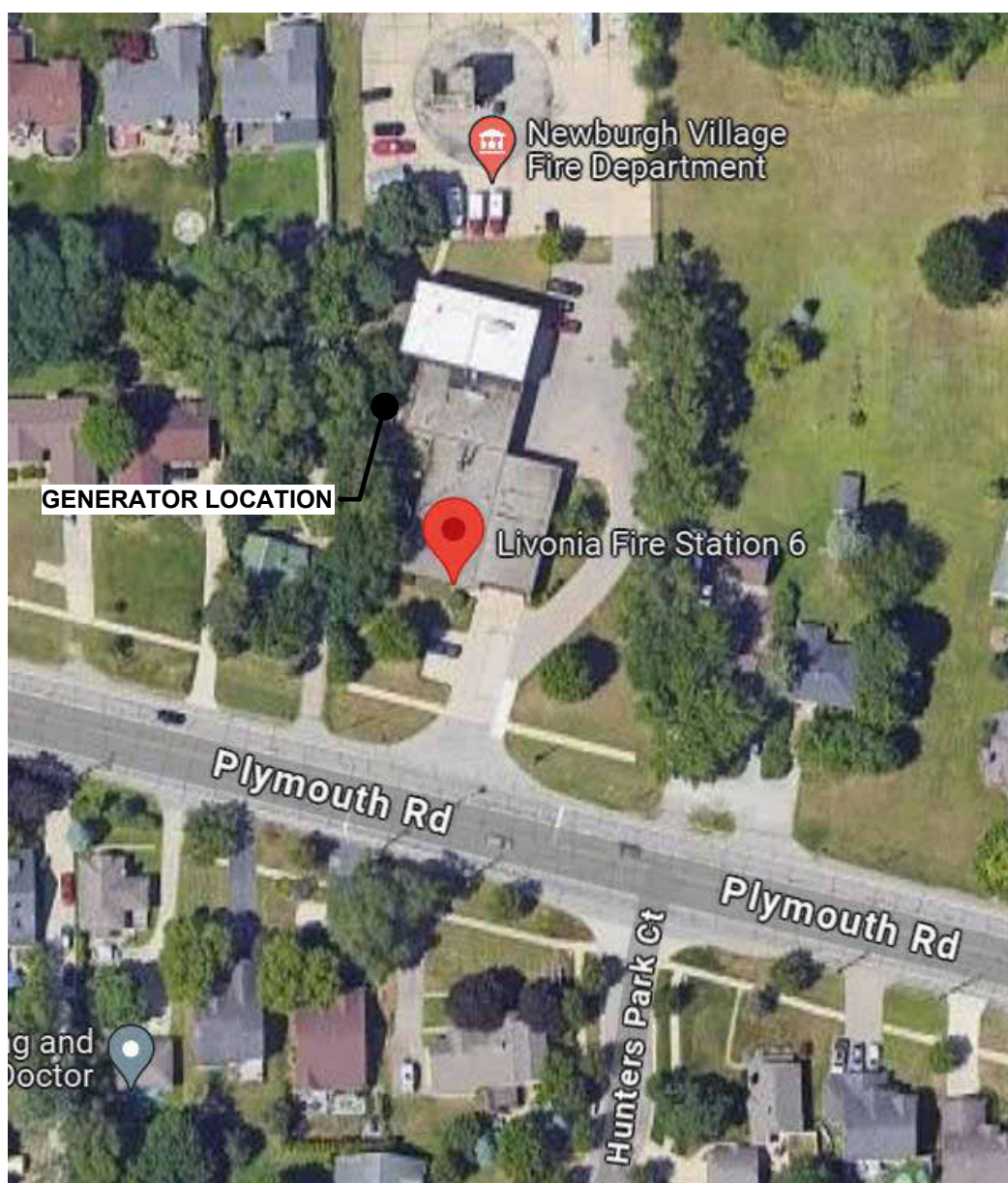
LOCATION MAPS



12973 FARMINGTON ROAD, LIVONIA, MI 48150



35000 W. SEVEN MILE ROAD, LIVONIA, MI 48152



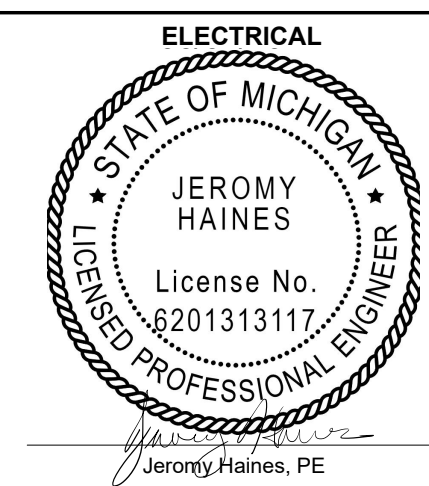
37876 PLYMOUTH ROAD, LIVONIA, MI 48150

DLZ PROJECT NO. 2142-7258-09

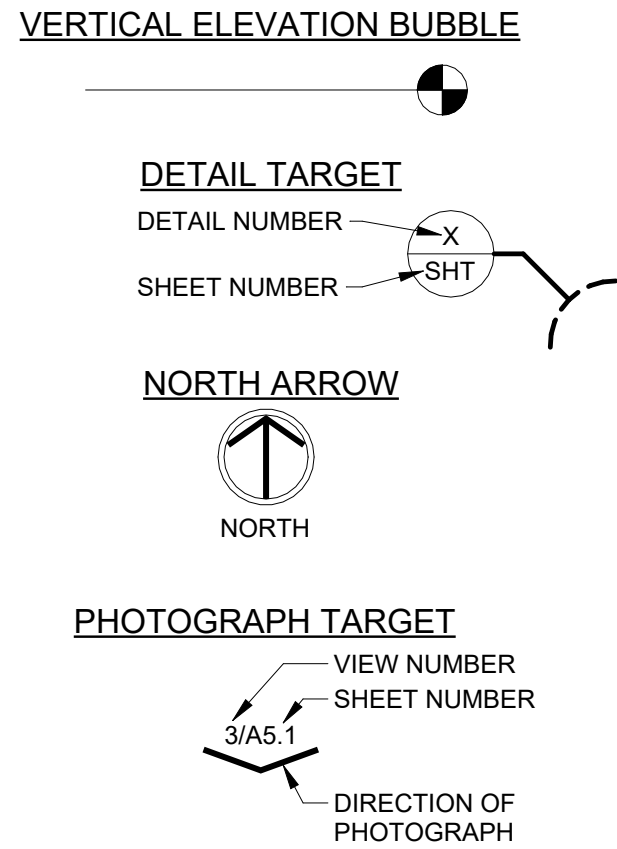
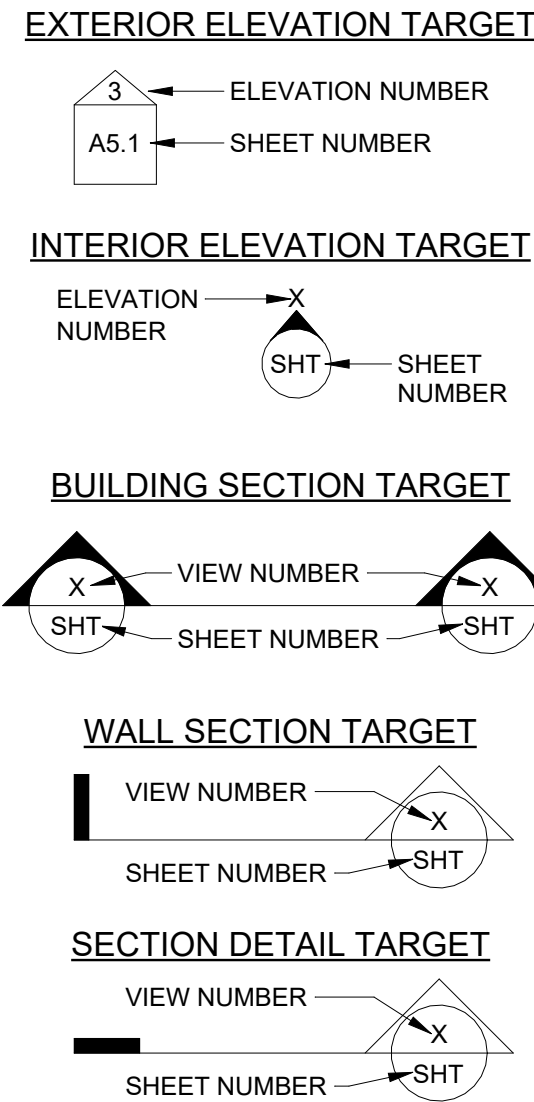
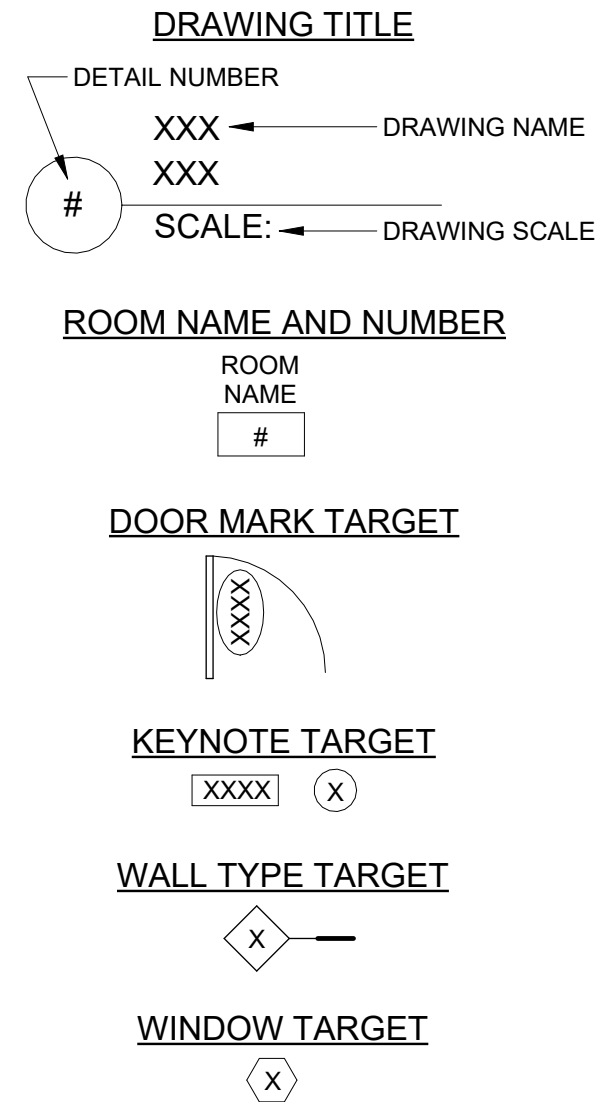


ARCHITECT/ENGINEER:
DLZ Michigan, Inc.
607 Shelby St., Suite 650
Detroit, MI 48226
Ph: 313.961.4040
www.dlz.com

EACH SEAL APPLIES TO ITS DESIGNATED DISCIPLINE.



SYMBOLS



SHEET INDEX

GENERAL	TITLE SHEET
G1.0	GENERAL NOTES AND INFORMATION
G1.1	ABBREVIATIONS, ADA MOUNTING HEIGHTS, AND PHASING PLAN
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I-A1.1	ARCHITECTURAL DETAILS - DPW
II-A1.0	ARCHITECTURAL SITE PLAN - FIRE STATION #3
II-A1.1	ARCHITECTURAL DETAIL - FIRE STATION #3
II-A1.2	ARCHITECTURAL DETAIL - FIRE STATION #3
III-A1.0	DEMO ARCHITECTURAL SITE PLAN - FIRE STATION #6
III-A1.1	NEW ARCHITECTURAL SITE PLAN - FIRE STATION #6
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III-E1.0	ELECTRICAL PLANS (FIRE STATION #6) - REMOVAL
III-E2.1	ONE-LINE DIAGRAM (FIRE STATION #6)
III-E2.2	ONE-LINE DIAGRAM, WIRING DETAIL (FIRE STATION #6)
III-E2.3	PANELBOARD SCHEDULES - FIRE STATION #6
III-E2.4	PANELBOARD SCHEDULES - FIRE STATION #6



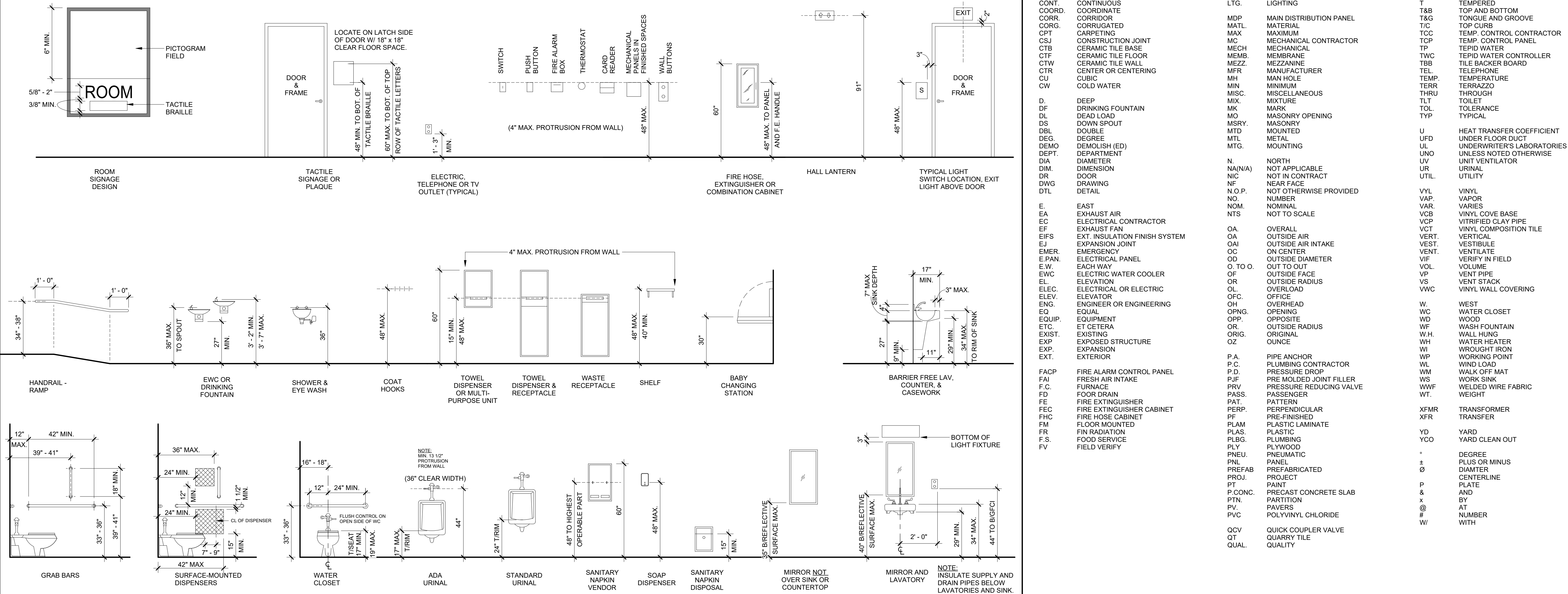
DATE			REVISION		NO.	
DRAWN:	Author	CHKD:	Chkd			
DESIGNED:			Designer			
APPRVD:			Approver			
DATE:			06-03-2024			
PROJECT NUMBER						
2142-7258-09						

GENERAL NOTES

- A. CONTRACTOR IS RESPONSIBLE TO CONFORM WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES AND REGULATIONS INCLUDING APPLICABLE ORDINANCES AND REFERENCED STANDARDS.
- B. CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO SUBMITTING A BID OR BEGINNING ANY WORK. CONDITIONS FOUND TO BE IN VARIANCE FROM THE INFORMATION IN THE DRAWINGS OR PROJECT MANUAL SHALL BE SUBMITTED TO THE ARCHITECT IN WRITING FOR CLARIFICATION.
- C. KEYNOTES ARE MEANT AS A GENERAL GUIDE FOR TYPICAL LOCATIONS. CONTRACTOR TO PERFORM FULL EXTENT OF WORK REQUIRED TO ACCOMPLISH DESIGN INTENT. THE ABSENCE OF A KEYNOTE DOES NOT ABSOLVE THE CONTRACTOR FROM PROVIDING THE FEATURE GRAPHICALLY INDICATED ON THE DRAWINGS.
- D. SPECIFIC WORK ITEMS SHALL BE COORDINATED AND INTERFACED WITH ALL OTHER TRADES TO ALLOW FOR NEW CONSTRUCTION AND COMPLETE INSTALLATION AS REQUIRED TO ACCOMPLISH DESIGN INTENT.
- E. REFER TO DRAWINGS OF EACH TRADE OR DISCIPLINE FOR ADDITIONAL GENERAL NOTES AND INFORMATION, INCLUDING CIVIL/SITE DEVELOPMENT, ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING, FIRE PROTECTION AND ELECTRICAL.
- F. CONTRACTOR IS RESPONSIBLE FOR ALL WORK IDENTIFIED ON ALL DRAWINGS AND INFORMATION IN THE PROJECT MANUAL, AS A COMPLETE PROJECT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE SPECIFIC SCOPE OF WORK FOR ANY SUBCONTRACTORS FOR THIS PROJECT.
- G. FIELD VERIFY ACTUAL LOCATIONS OF EXISTING UNDERGROUND UTILITIES, STRUCTURES, WATER LINES, STORM AND SANITARY LINES, GAS LINES, ELECTRICAL CONDUIT, AND OTHER UNDERGROUND UTILITIES PRIOR TO PERFORMING EARTHWORK, EXCAVATION, OR UTILITY WORK. ENGAGE THE SERVICES OF A PRIVATE UTILITY LOCATE COMPANY IF NECESSARY TO COMPLETELY LOCATE EXISTING UNDERGROUND UTILITIES AND STRUCTURES.
- H. LOCATION OF ALL TEMPORARY FACILITIES SHALL BE COORDINATED WITH OWNER AND ARCHITECT PRIOR TO MOBILIZATION ON-SITE, INCLUDING BUT NOT LIMITED TO TEMPORARY STAGING AREA, MATERIAL STORAGE AREA, ACCESS DRIVE(S), PARKING AREA, TOPSOIL STOCKPILE AREA, WASTE DISPOSAL AREA, FIELD OFFICES AND TEMPORARY FACILITIES, JOB SIGN, AND TEMPORARY FENCING.
- I. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL MISCELLANEOUS BLOCKING REQUIRED FOR INSTALLATION OF ALL BUILDING COMPONENTS, INCLUDING BUT NOT LIMITED TO FURNISHINGS, FIXTURES, EQUIPMENT, HARDWARE, BRACKETS, AND OWNER-PROVIDED EQUIPMENT. CONTRACTOR SHALL COORDINATE SPECIFIC REQUIREMENTS ASSOCIATED WITH EACH TRADE AND WITH OWNER'S REPRESENTATIVE.
- J. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL MISCELLANEOUS WOOD AND METAL TRIM, FLASHING, CLIP ANGLES, ANCHORS, SUPPORTS, AND CLOSURE TRIM REQUIRED TO PROVIDE A COMPLETE, UNIFORM, AND WEATHERTIGHT ASSEMBLY AS REQUIRED TO ACCOMPLISH THE DESIGN INTENT.
- K. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS. CONTRACTOR SHALL PROVIDE AND INSTALL ALL ACCESSORY COMPONENTS AS REQUIRED TO FULLY COMPLY WITH MANUFACTURER'S RECOMMENDATIONS.
- L. CONTRACTOR SHALL PROVIDE ACCESS DOORS IN ALL WALLS AND CEILINGS WHERE SERVICE OR ADJUSTMENT TO MECHANICAL, PLUMBING, FIRE PROTECTION OR ELECTRICAL ITEMS MAY BE REQUIRED. ACCESS DOORS SHALL BE OF AN APPROPRIATE SIZE REQUIRED FOR EACH APPLICATION. WHERE APPLICABLE, ACCESS DOORS SHALL MATCH THE FIRE RATING OF THE WALL ASSEMBLY.
- M. WHERE DISCREPANCIES EXIST IN THE CONTRACT DOCUMENTS INCLUDING DISCREPANCIES BETWEEN DRAWINGS AND PROJECT MANUAL, CONTRACTOR SHALL REQUEST CLARIFICATION IN WRITING FROM ARCHITECT. THE CONTRACTOR SHALL NOT ASSUME ANY ITEM TAKES PRECEDENCE OVER THE OTHER. ANY ACTION THE CONTRACTOR MAKES PRIOR TO NOTIFICATION IN WRITING SHALL BE SOLELY AT THE CONTRACTOR'S RISK.
- N. CONTRACTOR SHALL SEAL ALL PENETRATIONS IN EXTERIOR WALL AND ROOF ASSEMBLIES WITH APPROPRIATE JOINT SEALANT(S) AND FLASHING(S) TO MAINTAIN A WEATHERTIGHT AND AIRTIGHT BUILDING ENVELOPE. ALL JOINTS AND PENETRATIONS SHALL BE SEALED, GASKETED, OR WEATHER-STRIPPED TO MINIMIZE AIR LEAKAGE, INCLUDING THE FOLLOWING:
1. JOINTS AROUND FENESTRATION AND DOOR FRAMES.
 2. JUNCTIONS BETWEEN WALLS AND FOUNDATIONS, BETWEEN WALLS AT BUILDING CORNERS, BETWEEN WALLS AND FLOORS OR ROOFS, AND BETWEEN WALLS AND ROOF OR WALL PANELS.
 3. OPENINGS AT PENETRATIONS OF UTILITY SERVICES THROUGH ROOFS, WALLS, AND FLOORS.
 4. JOINTS, SEAMS, AND PENETRATIONS OF VAPOR RETARDERS.
 5. ALL OTHER OPENINGS IN THE BUILDING ENVELOPE.
- O. COORDINATE WITH OTHER CONSTRUCTION ACTIVITIES AND CONSTRUCTION SEQUENCING WITH OTHER PROJECT(S) AND WORK BEING PERFORMED CONCURRENTLY ON-SITE.
- P. CONTRACTOR TO PROTECT ALL ITEMS WITHIN THE CONSTRUCTION LIMITS (INCLUDING SITE ELEMENTS) THAT ARE DESIGNATED TO REMAIN; ITEMS DAMAGED AS A RESULT OF WORK PERFORMED UNDER THIS CONTRACT SHALL BE REPAIRED OR REPLACED TO ORIGINAL CONDITION.
- Q. ALL PENETRATIONS AND JOINTS IN FIRE-RATED WALL ASSEMBLIES AND FLOOR/CEILING ASSEMBLIES SHALL BE SEALED WITH THE FIRESTOPPING SYSTEM OR FIRE-RESISTIVE JOINT SYSTEM WHICH IS THE MOST APPROPRIATE FOR THE SPECIFIC APPLICATION BASED ON THE TYPE OF ASSEMBLY AND TYPE OF PENETRATING ELEMENT. SYSTEMS SHALL BE U.L.-LISTED FOR EACH APPLICATION.
- R. ALL VERTICAL FENESTRATION (OPERABLE AND FIXED GLAZED ASSEMBLIES) SHALL BE LABELED BY THE MANUFACTURER WITH U-FACTOR, SHGC RATING, SAFETY RATING, AND FIRE-RESISTANCE RATING, WHERE APPLICABLE. WINDOWS AND DOORS SHALL BE CERTIFIED AS MEETING AIR LEAKAGE REQUIREMENTS PER NFRC 400.
- S. THESE DRAWINGS SHALL NOT BE SCALED TO OBTAIN DIMENSIONS. IF THE DIMENSIONS CANNOT BE DETERMINED BY THE INFORMATION GIVEN, CONTRACTOR SHALL REQUEST CLARIFICATION FROM THE ARCHITECT. ALL DIMENSIONS ARE TO FACE OF STUD, FACE OF CMU, OR FACE OF CONCRETE, UNLESS NOTED OTHERWISE. CEILING HEIGHT DIMENSIONS ARE FROM FINISHED FLOOR TO FACE OF FINISHED CEILING MATERIALS, UNLESS NOTED OTHERWISE.
- T. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL NECESSARY DEWATERING ACTIVITIES AS PART OF THE BASE BID AMOUNT.

MI	CITY OF LIVONIA LIVONIA GENERATORS	GENERAL NOTES AND INFORMATION
DRAWING NUMBER	G1.1	GENERAL

STANDARD AND ADA MOUNTING HEIGHTS



ABBREVIATIONS

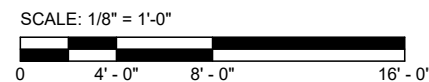
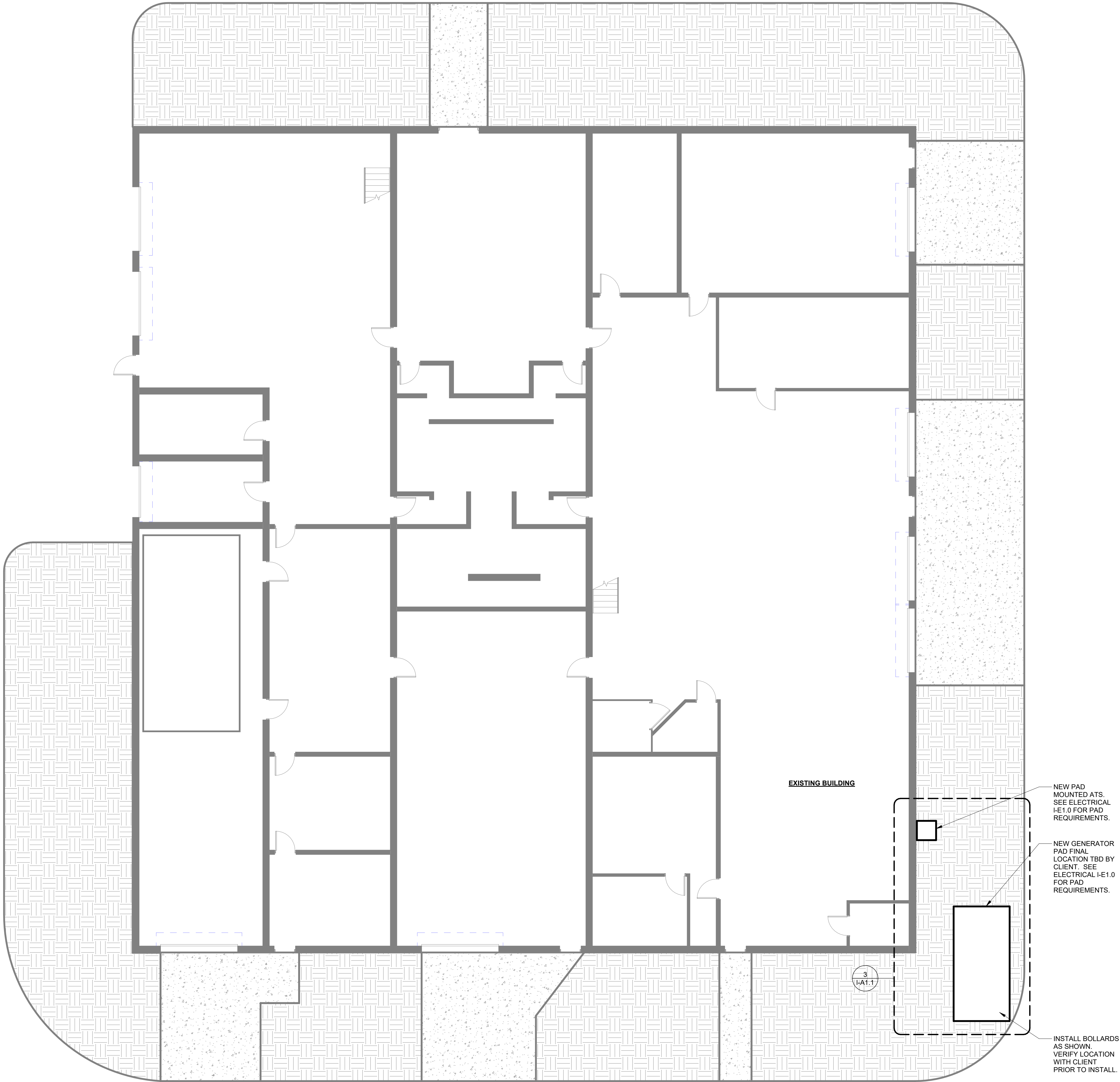
ABBREVIATIONS:

A.B.	ANCHOR BOLT	FWC	FABRIC WALL COVERING	QTY.	QUANTITY
A/C	AIR CONDITIONING	FIN.	FINISH	R.	RIGHT
A.D.	AREA DRAIN	FLR	FLOOR	RAD.	RADIUS
ADD.	ADDENDUM	FT	FOOT OR FEET	RA	RETURN AIR
AFF	ABOVE FINISHED FLOOR	FTG	FOOTING	RB	RUBBER BASE
AFG	ABOVE FINISHED GRADE			RBR	RUBBER
AFT	ATHLETIC FLOOR TILE	GA	GAUGE	RD.	ROAD
AP	ACCESS PANEL	GC	GENERAL CONTRACTOR	RD.	ROAD
APC	ACOUSTICAL PANEL CEILING	GRV	GRAVITY ROOF VENTILATOR	RD.	ROOF DRAIN
AV	AUDIO VISUAL	GL	GLASS	REC.	RECESSED
ADMIN.	ADMINISTRATION	GND.	GROUND	REF	REFRIGERATOR
AGGR.	AGGREGATE	GR.	GRADE	REV.	REVISION
ALT.	ALTERNATE	GSB	GYPSUM WALL BOARD	REM.	REMOVABLE
ALUM	ALUMINUM			RH	RIGHT HAND
APPROX	APPROXIMATE	H.	HIGH	RHR	RIGHT HAND REVERSE
ARCH.	ARCHITECT (ARCHITECTURAL)	H.B.	HOSE BIBB	RCP	REINFORCED CONCRETE PIPE
ASPH.	ASPHALT	HM	HOLLOW METAL	RE:	REFER TO:
ASSOC.	ASSOCIATE	HOA	HAND-OFF-AUTOMATIC	RECPT	RECEPTACLE
AVG	AVERAGE	HVAC	HEATING VENTILATING & AIR-CONDITIONING	RECT.	RECTANGLE OR RECTANGULAR
		HW	HOT WATER	REINF	REINFORCE (D) (ING) (MENT)
		HWS	HOT WATER SUPPLY	REQD.	REQUIRED
		HWR	HOT WATER RETURN	REV.	REVERSE
		HDWD.	HARDWOOD	RFG.	ROOFING
		HDWR.	HARDWARE	RH	RIGHT HAND
		HT (HGT.)	HEIGHT	RHR	RIGHT HAND REVERSE
		HDP	HIGH DENSITY PARTICALE BOARD	RLS.	RAILING
		HORIZ.	HORIZONTAL	RM	ROOM
		HR.	HOUR	R.R.	RAIL ROAD
		HYD.	HYDRAULIC	RT.	RIGHT
		ID	INSIDE DIAMETER	ROW (RW)	RIGHT OF WAY
		I.F.	INSIDE FACE	RVS.	REVERSE
		IR	INSIDE RADIUS	RWC	RAIN WATER COLLECTOR
		IN.	INCH	RWL	RAIN WATER LEADER
		INFO.	INFORMATION	SA	SUPPLY AIR
		INSUL	INSULATION	SC	SEALED CONCRETE
		INT.	INTERIOR	SFS	STORE FRONT SYSTEM
		INV.	INVERT	SPS	STAND PIPE
		JAN.	JANITOR OR JANITORIAL	S.	SOUTH
		J.B.	JUNCTION BOX	SS	STAINLESS STEEL
		JCT.	JUNCTION	S. TO S.	STUD TO STUD
		JT.	JOINT	SHM	SECURITY HOLLOW METAL
		K.D.	KILN-DRIED	SV	SHEET VINYL
		KIT	KITCHEN	SAN	SANITARY
		KO	KNOCKOUT	SCHED	SCHEDULE
		KP.	KICK PLATE	SECT	SECTION
		L.	LEFT	SEW	SEWER
		LAM.	LAMINATED	SHT	SHEET
		LAV.	LAVATORY	SHWR	SHOWER
		LBS.	POUNDS	SIM.	SIMILAR
		LG.	LARGE	S.O.	SECTIONAL OVERHEAD
		LGTH	LENGTH	SPECS	SPECIFICATIONS
		LH	LEFT HAND	SPKR	SPEAKER
		LF (LF.)	LINEAR FEET	SQ.	SQUARE
		LHR	LEFT HAND REVERSE	ST	STEEL
		L.L.	LIVE LOAD	STD	STANDARD
		L.O.A.	LENGTH OVER ALL	STOR.	STORAGE
		LIN.	LINEAR	STRUCT	STRUCTURAL
		L.TG.	LIGHTING	SUSP.	SUSPENDED
		MDP	MAIN DISTRIBUTION PANEL	SW	SWITCH
		MATL.	MATERIAL	T.	TEMPERED
		MAX	MAXIMUM	T&B	TOP AND BOTTOM
		MECH	MECHANICAL CONTRACTOR	T&G	TONGUE AND GROOVE
		MECH	MECHANICAL	T/C	TOP CURB
		MEMB	MEMBRANE	TCC	TEMP. CONTROL CONTRACTOR
		MEZZ.	MEZZANINE	TEMP.	TEMP. CONTROL PANEL
		MFR	MANUFACTURER	TP	TEPID WATER
		M.H.	MAN HOLE	TWC	TEPID WATER CONTROLLER
		MIN	MINIMUM	TBB	TILE BACKER BOARD
		MISC.	MISCELLANEOUS	TEL	TELEPHONE
		MIX.	MIXTURE	TEMP.	TEMPERATURE
		MK	MARK	TERR	TERRAZZO
		MO	MASONRY OPENING	THRU	THROUGH
		MSRY.	MASONRY	TLT	TOILET
		MTD	MOUNTED	TOL.	TOLERANCE
		MTL	METAL	TYP	TYPICAL
		MTG.	MOUNTING	U	HEAT TRANSFER COEFFICIENT
		N	NORTH	UFD	UNDER FLOOR DUCT
		NA(N/A)	NOT APPLICABLE	UL	UNDERWRITER'S LABORATORIES
		NIC	NOT IN CONTRACT	UNO	UNLESS NOTED OTHERWISE
		NF	NEAR FACE	UV	UNIT VENTILATOR
		N.O.P.	NOT OTHERWISE PROVIDED	UR	URINAL
		NO	NUMBER	UTIL.	UTILITY
		NOM.	NOMINAL	VYL	VINYL
		NTS	NOT TO SCALE	VAP.	VAPOR
		OA	OVERALL	VAR.	VARIABLES
		OA	OUTSIDE AIR	VCB	VINYL COVE BASE
		OAI	OUTSIDE AIR INTAKE	VCP	VITRIFIED CLAY PIPE
		OC	ON CENTER	VCT	VINYL COMPOSITION TILE
		OD	OUTSIDE DIAMETER	VERT.	VERTICAL
		O. TO O.	OUT TO OUT	VEST.	VESTIBULE
		OF	OUTSIDE FACE	VENT.	VENTILATE
		OR	OUTSIDE RADIUS	VIF	VERIFY IN FIELD
		OL.	OVERLOAD	VOL.	VOLUME
		OFC.	OFFICE	VP	VENT PIPE
		OH	OVERHEAD	VS	VENT STACK
		OPNG.	OPENING	VWC	VINYL WALL COVERING
		OPP.	OPPOSITE	W.	WEST
		OR.	OUTSIDE RADIUS	WC	WATER CLOSET
		ORIG.	ORIGINAL	WD	WOOD
		OZ	OUNCE	WF	WASH FOUNTAIN
		P.A.	PIPE ANCHOR	W.H.	WALL HUNG
		P.C.	PLUMBING CONTRACTOR	WH	WATER HEATER
		P.D.	PRESSURE DROP	WI	WROUGHT IRON
		PJF	PRE MOLDED JOINT FILLER	WP	WORKING POINT
		PRV.	PRESSURE REDUCING VALVE	WL	WIND LOAD
		PASS.	PASSENGER	WM	WALK OFF MAT
		PAT.	PATTERN	WS	WORK SINK
		PERP.	PERPENDICULAR	WWF	WELDED WIRE FABRIC
		PF	PRE-FINISHED	WT.	WEIGHT
		PLAM	PLASTIC LAMINATE	XFMR	TRANSFORMER
		PLAS.	PLASTIC	XFR	TRANSFER
		PLBG.	PLUMBING	YD	YARD
		PLY	PLYWOOD	YCO	YARD CLEAN OUT
		PNEU.	PNEUMATIC	*	DEGREE
		PANL	PANEL	±	PLUS OR MINUS
		PREFAB	PREFABRICATED	Ø	DIAMETER
		PROJ.	PROJECT	P	PLATE
		PT	PAINT	&	AND
		P.CONC.	PRECAST CONCRETE SLAB	x	BY
		PTN.	PARTITION	@	AT
		PV.	PAVERS	#	NUMBER
		PVC	POLYVINYL CHLORIDE	W/	WITH
		QCV	QUICK COUPLER VALVE		
		QT	QUARRY TILE		
		QUAL.	QUALITY		

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6/3/2024 2:27:18 PM



1 SITE PLAN - DPW
SCALE: 1/8" = 1'-0"



GENERAL NOTES:

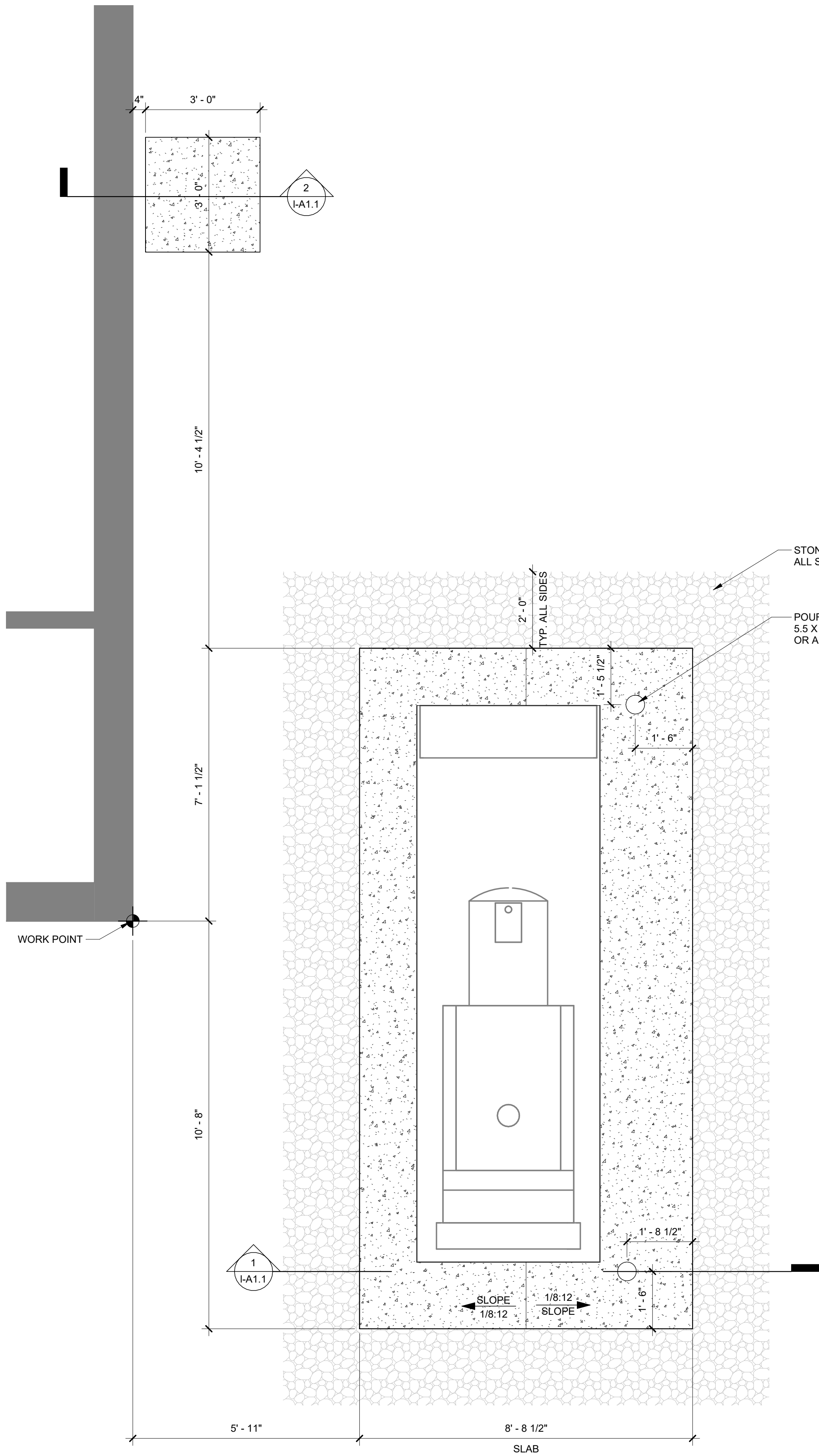
- A. REFER TO G1.1 FOR ADDITIONAL GENERAL NOTES AND INFORMATION.
- B. VERIFY PAD AND SCREEN WALL DIMENSIONS IN FIELD WITH CLIENT AND ARCHITECT PRIOR TO CONSTRUCTION.
- C. CONCRETE F'C = 4000PSI
- D. MASONRY F'M = 2000PSI
- E. FOUNDATION TO BEAR ON FIRM NATURAL MATERIAL. REMOVE ANY FILL, ORGANIC OR UNSUITABLE SOILS.
- F. BACKFILL WITH ENGINEERED FILL AND COMPACT TO 95% MODIFIED PROCTOR.
- G. CONTRACTOR TO PROVIDE TEMPORARY UTILITIES AND EQUIPMENT; COORD. WITH ELECTRICAL DOCUMENTS.



DATE	REVISION	NO.	DRAWN: Author	CHKD: Chkd
5/24/2024	1 PERMIT SET	1	DESIGNED: Designer	APPROVED: Approver
			DATE: 08-03-2024	PROJECT NUMBER
				2142-7258-09

LIVONIA	MICHIGAN
CITY OF LIVONIA LIVONIA GENERATORS	ARCHITECTURAL SITE PLAN - DPW

DRAWING NUMBER	I-A1.0
ARCHITECTURE	



3 DPW - ENLARGED PLAN
SCALE: 1/2" = 1'-0"

SHIM TO LEVEL
TRANSFORMER ON SLAB

CHAMFER SLAB EDGES

PROPOSED STONE MULCH
MAINTENANCE STRIP.
PLACE 4" DEPTH OF STONE MULCH
OVER LANDSCAPE FABRIC. MULCH
AND TURF SHALL BE FLUSH WITH
TOP OF STEEL EDGER.

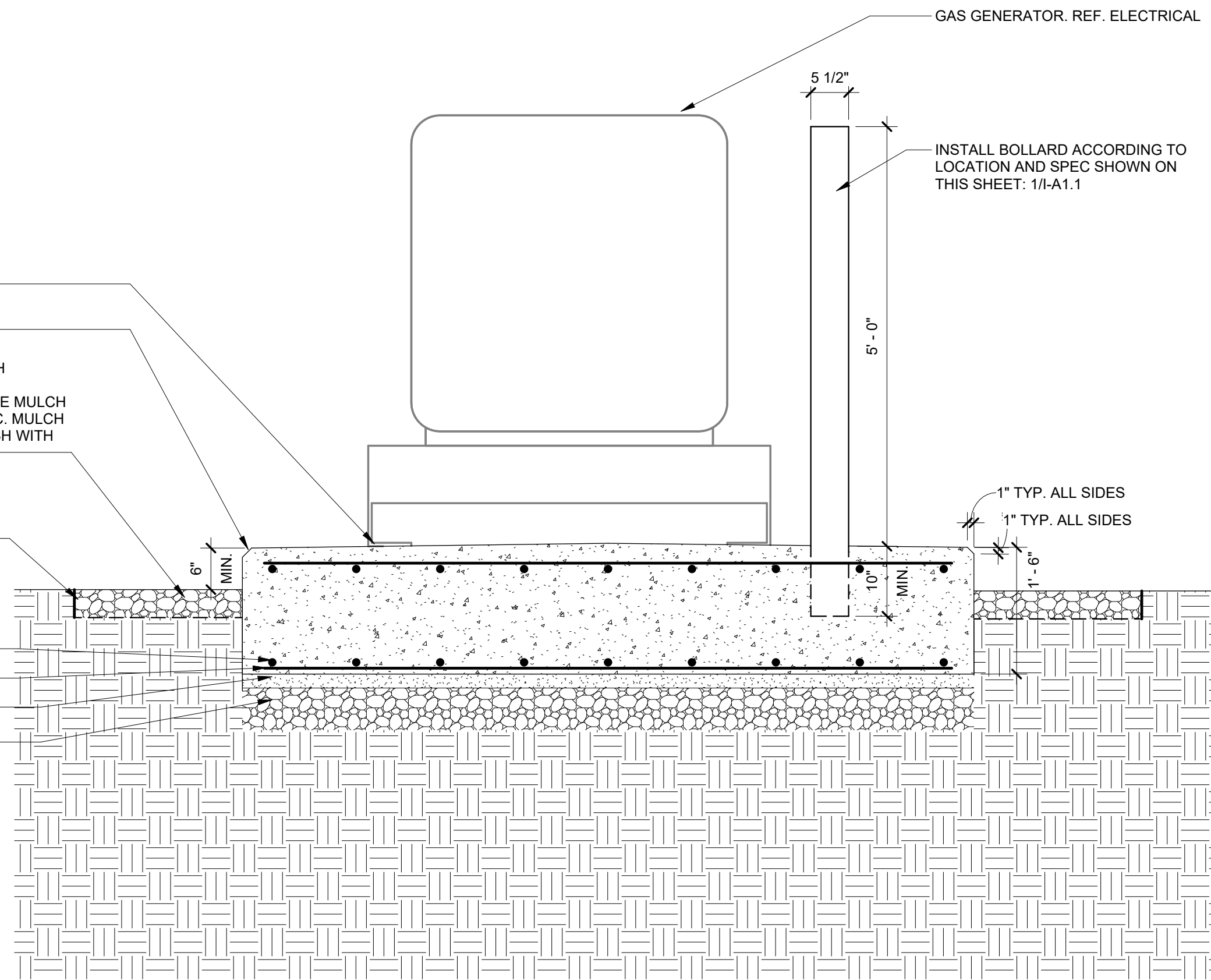
INSTALL AND STAKE 3/16"
STEEL EDGING AS
REQUIRED BY THE
MANUFACTURER.

#5 @ 12" O.C.

#5 @ 9" O.C.

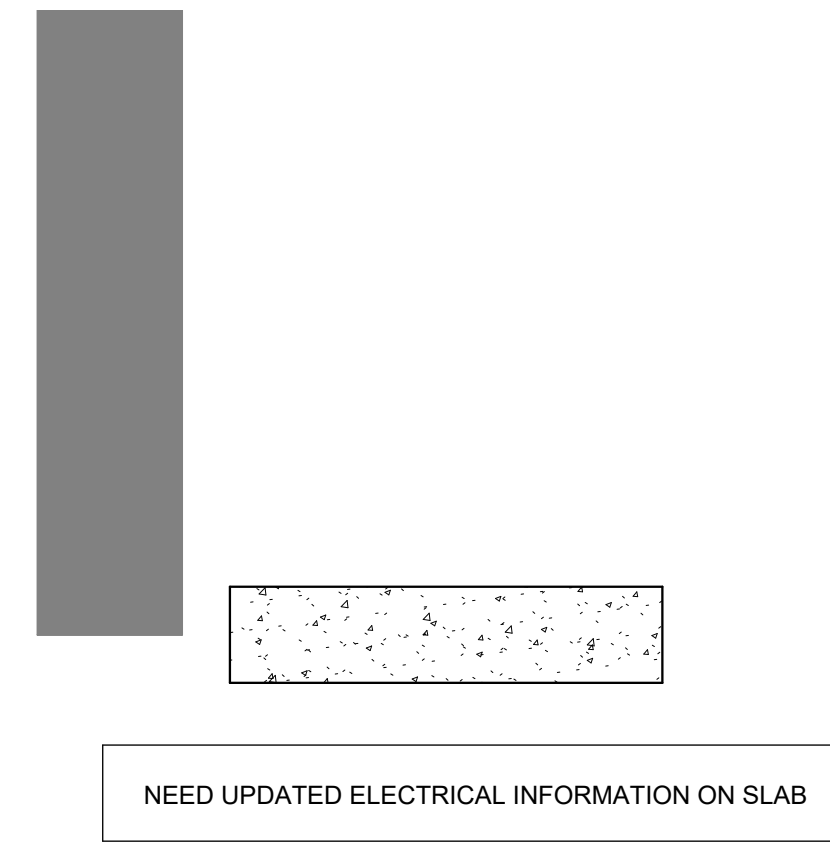
1" SAND

6" COMPACTED
AGGREGATE BASE



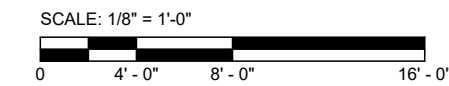
1 18" SLAB SECTION
SCALE: 3/4" = 1'-0"

2 PAD SECTION
SCALE: 3/4" = 1'-0"



GENERAL NOTES:

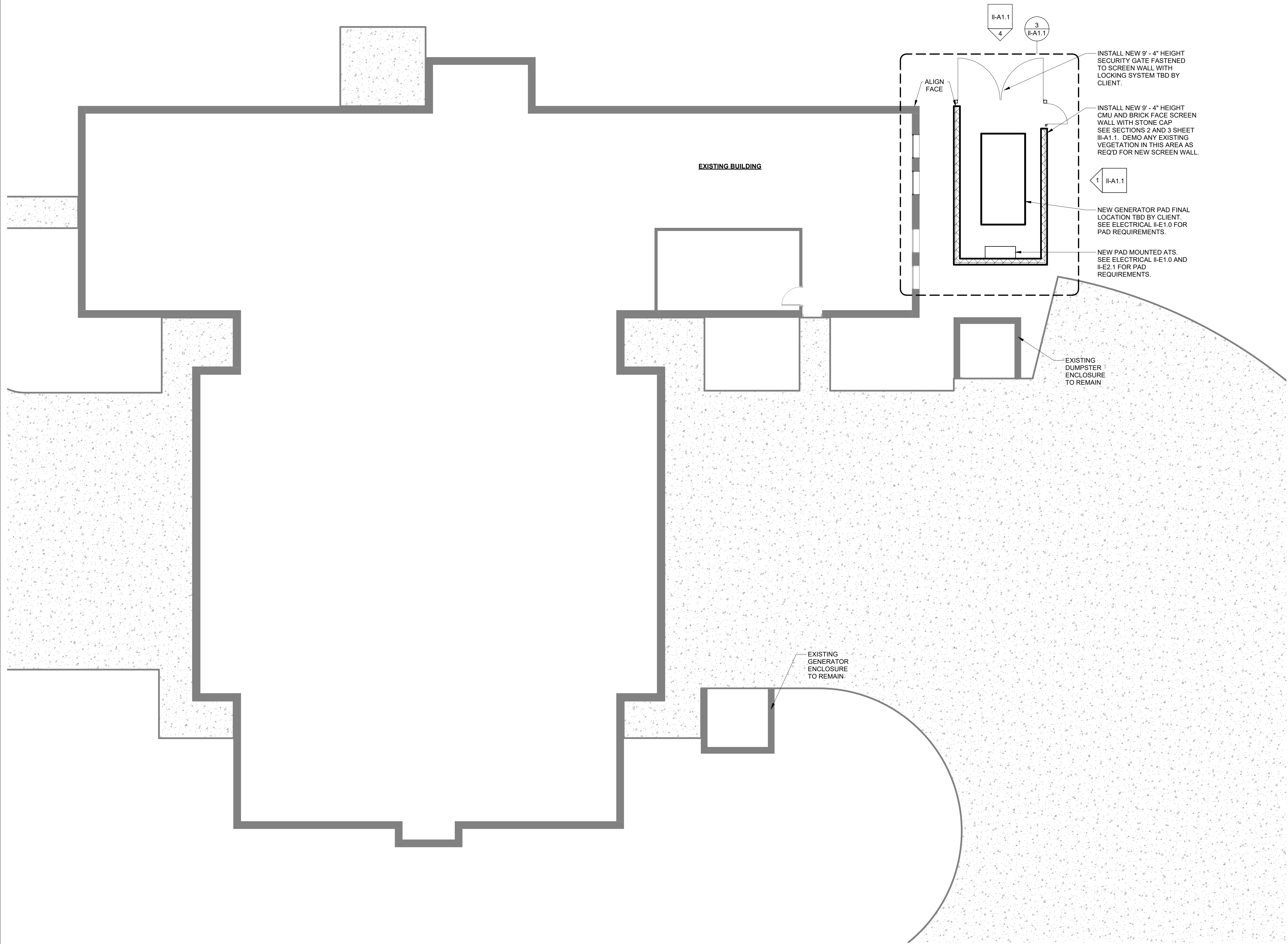
- REFER TO G1.1 FOR ADDITIONAL GENERAL NOTES AND INFORMATION.
- VERIFY PAD AND SCREEN WALL DIMENSIONS IN FIELD WITH CLIENT AND ARCHITECT PRIOR TO CONSTRUCTION.
- CONCRETE F'C = 4000PSI
- MASONRY F'M = 2000PSI
- FOUNDATION TO BEAR ON FIRM NATURAL MATERIAL. REMOVE ANY FILL, ORGANIC OR UNSUITABLE SOILS.
- BACKFILL WITH ENGINEERED FILL AND COMPACT TO 95% MODIFIED PROCTOR.
- CONTRACTOR TO PROVIDE TEMPORARY UTILITIES AND EQUIPMENT; COORD. WITH ELECTRICAL DOCUMENTS.





SITE PLAN - FIRE STATION #3

SCALE: 1/8" = 1'-0"



SCALE: 1/8" = 1'-0"

GENERAL NOTES:

- A. REFER TO G1.1 FOR ADDITIONAL GENERAL NOTES AND INFORMATION.
- B. VERIFY PAD AND SCREEN WALL DIMENSIONS IN FIELD WITH CLIENT AND ARCHITECT PRIOR TO CONSTRUCTION.
- C. CONCRETE F'C = 4000PSI
- D. MASONRY F'M = 2000PSI
- E. FOUNDATION TO BEAR ON FIRM NATURAL MATERIAL. REMOVE ANY FILL, ORGANIC OR UNSUITABLE SOILS.
- F. BACKFILL WITH ENGINEERED FILL AND COMPACT TO 95% MODIFIED PROCTOR.
- G. CONTRACTOR TO PROVIDE TEMPORARY UTILITIES AND EQUIPMENT; COORD. WITH ELECTRICAL DOCUMENTS.



DRAWN:	AUTHOR:	CHKD:	CHECKED:	NO.	REVISION	DATE
DESIGNED:	Designer			1	PERMIT SET	5/24/2024
APPRVD:	Approver					
DATE:	06-03-2024					
PROJECT NUMBER						
2142-7258-09						

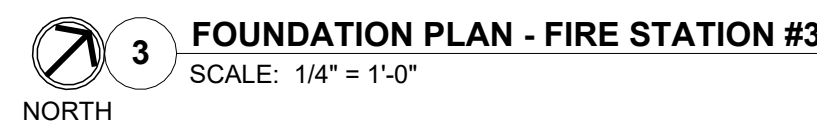
LIVONIA	CITY OF LIVONIA LIVONIA GENERATORS	MI
ARCHITECTURAL SITE PLAN - FIRE STATION #3		

DRAWING NUMBER

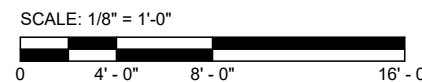
II-A1.0

ARCHITECTURE

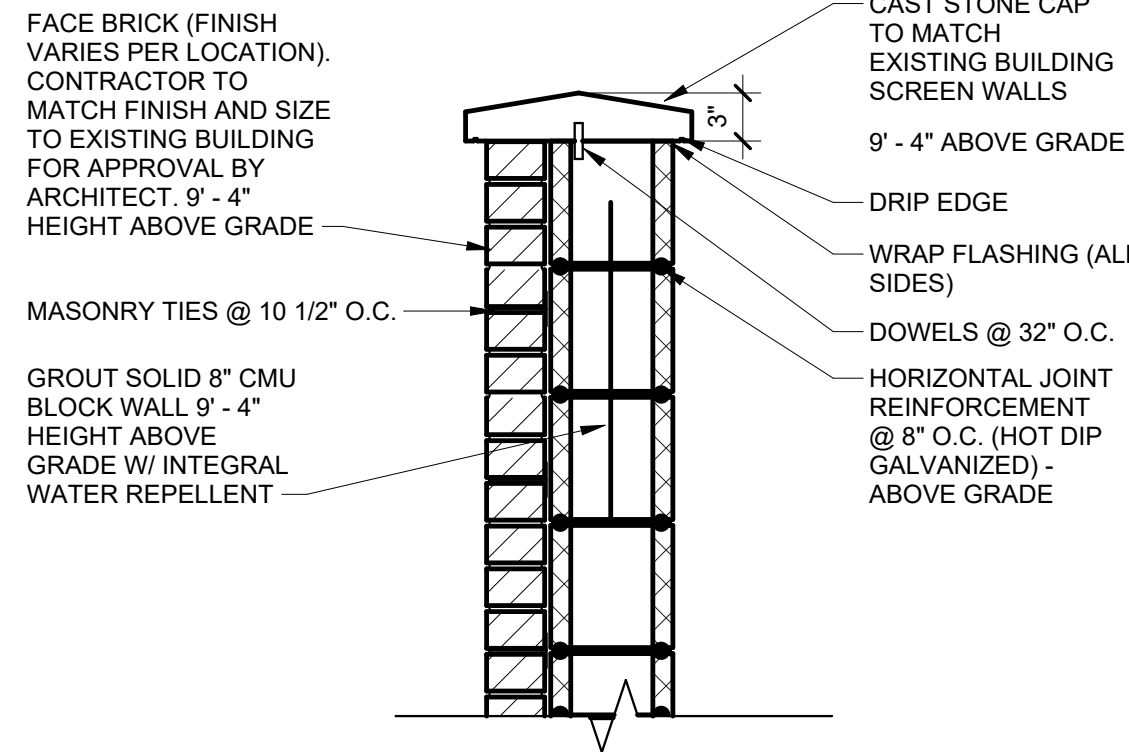




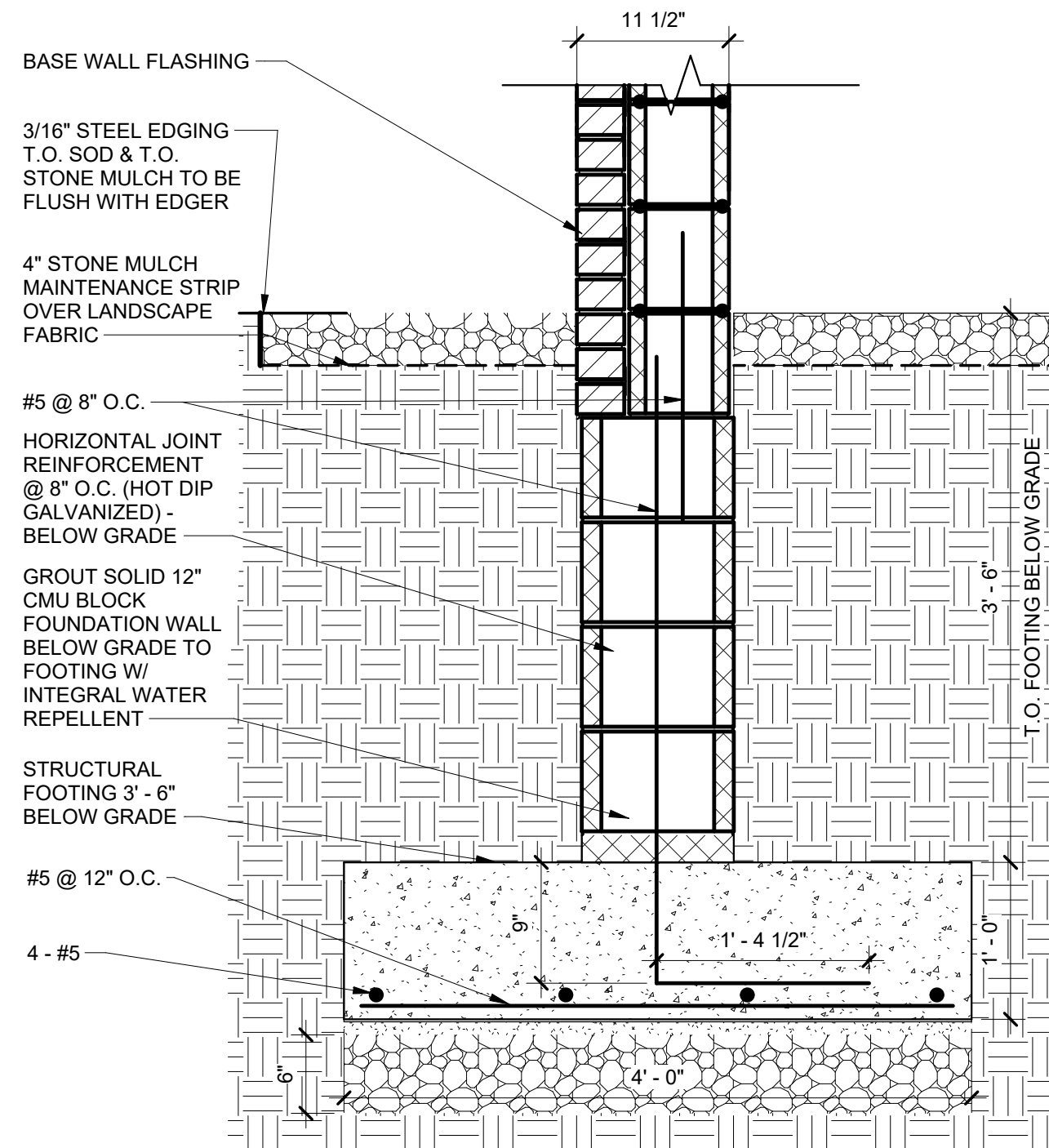
- A. REFER TO G1.1 FOR ADDITIONAL GENERAL NOTES AND INFORMATION.
- B. VERIFY PAD AND SCREEN WALL DIMENSIONS IN FIELD WITH CLIENT AND ARCHITECT PRIOR TO CONSTRUCTION.
- C. CONCRETE F'C = 4000PSI
- D. MASONRY FM = 2000PSI
- E. FOUNDATION TO BEAR ON FIRM NATURAL MATERIAL. REMOVE ANY FILL, ORGANIC OR UNSUITABLE SOILS.
- F. BACKFILL WITH ENGINEERED FILL AND COMPACT TO 95% MODIFIED PROCTOR.
- G. CONTRACTOR TO PROVIDE TEMPORARY UTILITIES AND EQUIPMENT; COORD. WITH ELECTRICAL DOCUMENTS.



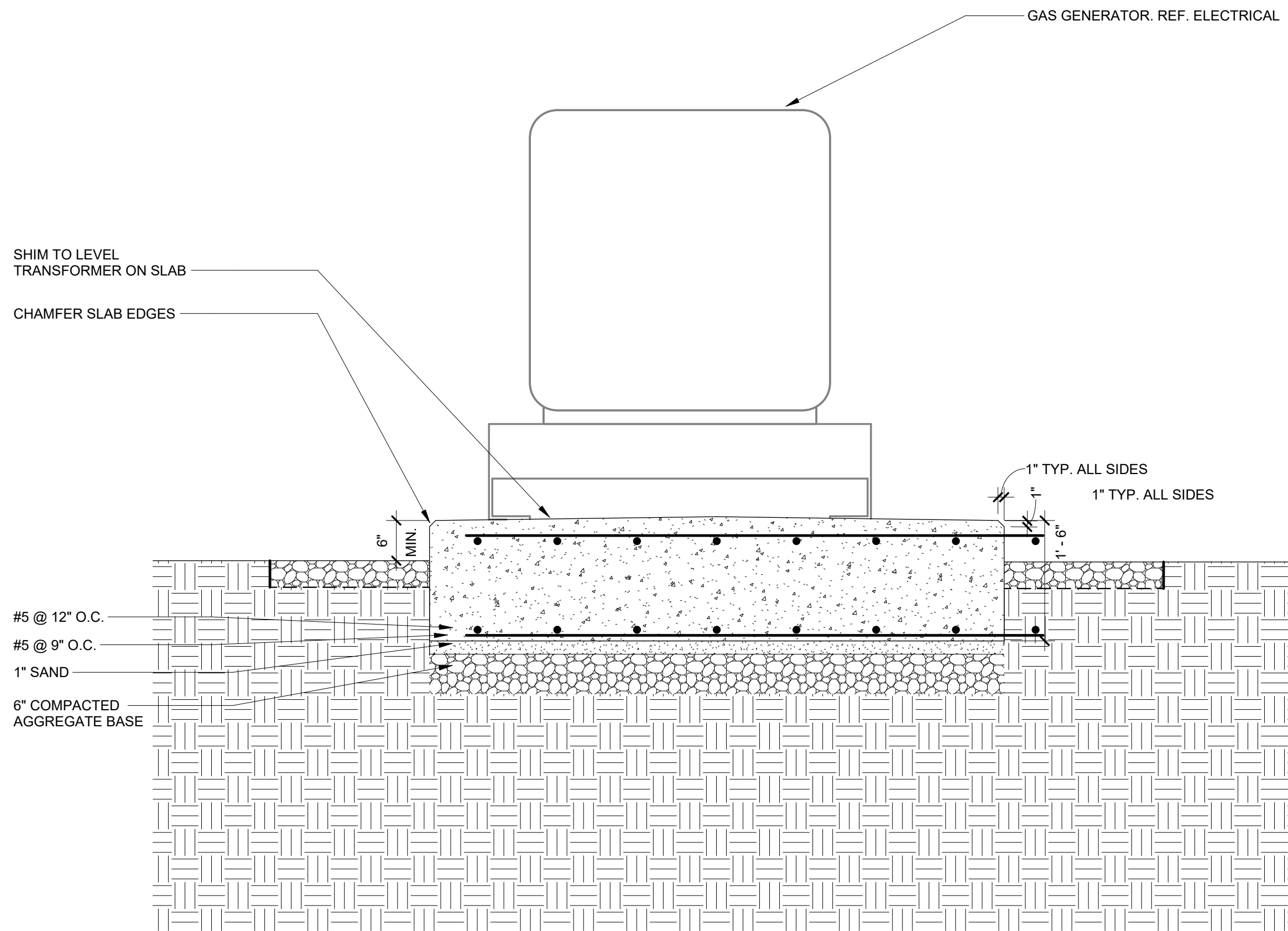
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				DESIGNED: Designer			PERMIT SET	
				APPROVD: Approver				
				DATE: 06-03-2024				
				PROJECT NUMBER				
ARCHITECTURE	ARCHITECTURAL DETAIL - FIRE STATION #3 2142-7258-09							



3 CMU/BRICK WITH CAP SCREEN WALL SECTION - FIRE STATION #3
SCALE: 1" = 1'-0"



2 CMU WALL SECTION - FIRE STATION #3
SCALE: 1" = 1'-0"



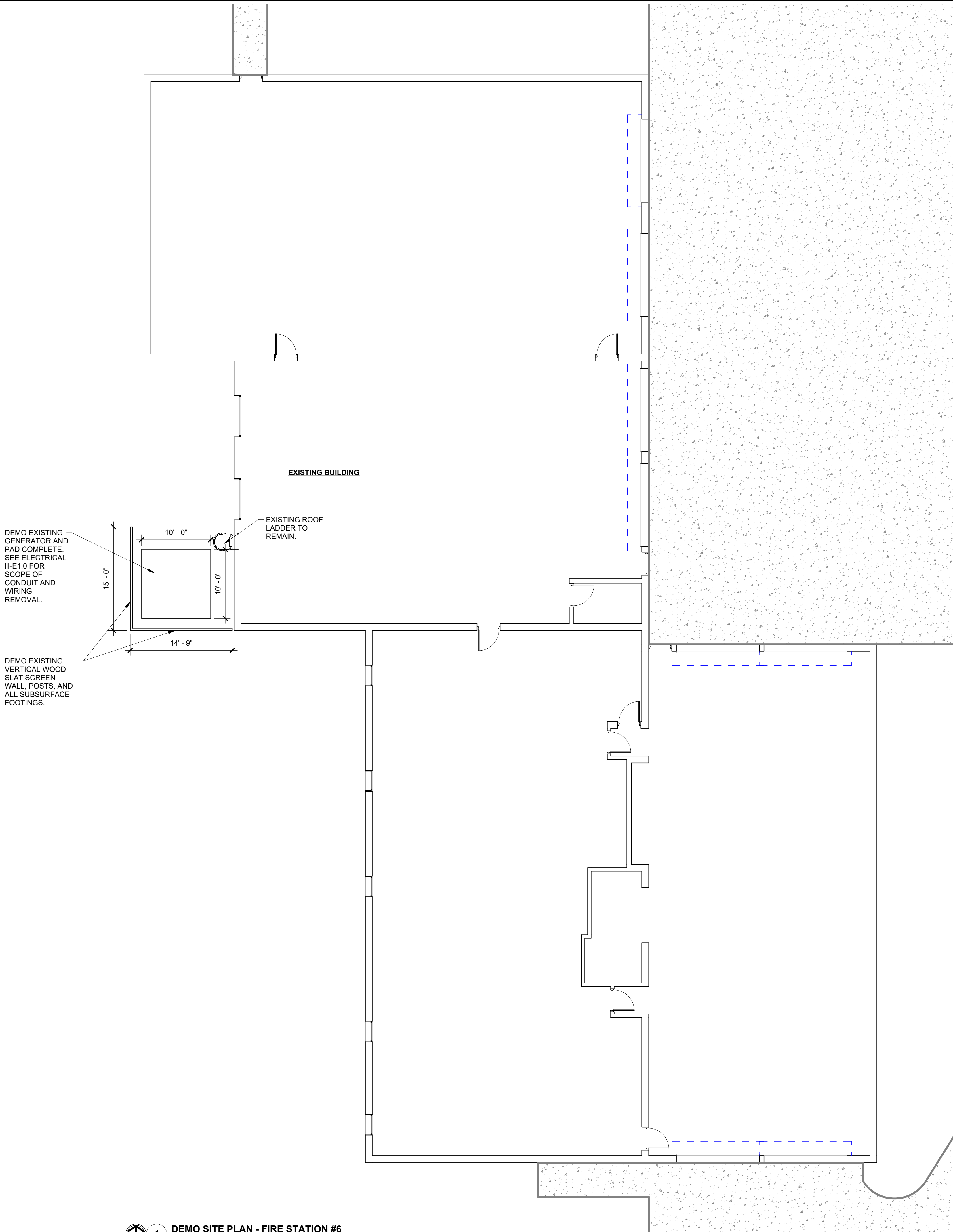
1 18" SLAB SECTION - FIRE STATION #3
SCALE: 3/4" = 1'-0"

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DRAWN: Author	CHK'D: Check
DESIGNED: Designer	
APPR'D: Approver	
DATE: 06-03-2024	
PROJECT NUMBER	
2142-7258-09	

LIVONIA	MI
CITY OF LIVONIA LIVONIA GENERATORS	
ARCHITECTURAL DETAIL - FIRE STATION #3	

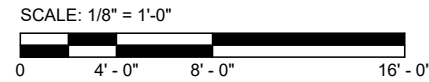
DRAWING NUMBER	II-A1.2	ARCHITECTURE
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1

DEMO SITE PLAN - FIRE STATION #6

SCALE: 1/8" = 1'-0"



GENERAL NOTES:

- A. REFER TO G1.1 FOR ADDITIONAL GENERAL NOTES AND INFORMATION.
- B. VERIFY PAD AND SCREEN WALL DIMENSIONS IN FIELD WITH CLIENT AND ARCHITECT PRIOR TO CONSTRUCTION.
- C. CONCRETE F'C = 4000PSI
- D. MASONRY F'M = 2000PSI
- E. FOUNDATION TO BEAR ON FIRM NATURAL MATERIAL. REMOVE ANY FILL, ORGANIC OR UNSUITABLE SOILS.
- F. BACKFILL WITH ENGINEERED FILL AND COMPACT TO 95% MODIFIED PROCTOR.
- G. CONTRACTOR TO PROVIDE TEMPORARY UTILITIES AND EQUIPMENT, COORD. WITH ELECTRICAL DOCUMENTS.



NO.	REVISION	DATE
1	PERMIT SET	5/24/2024

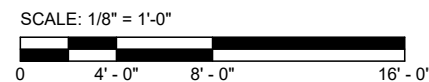
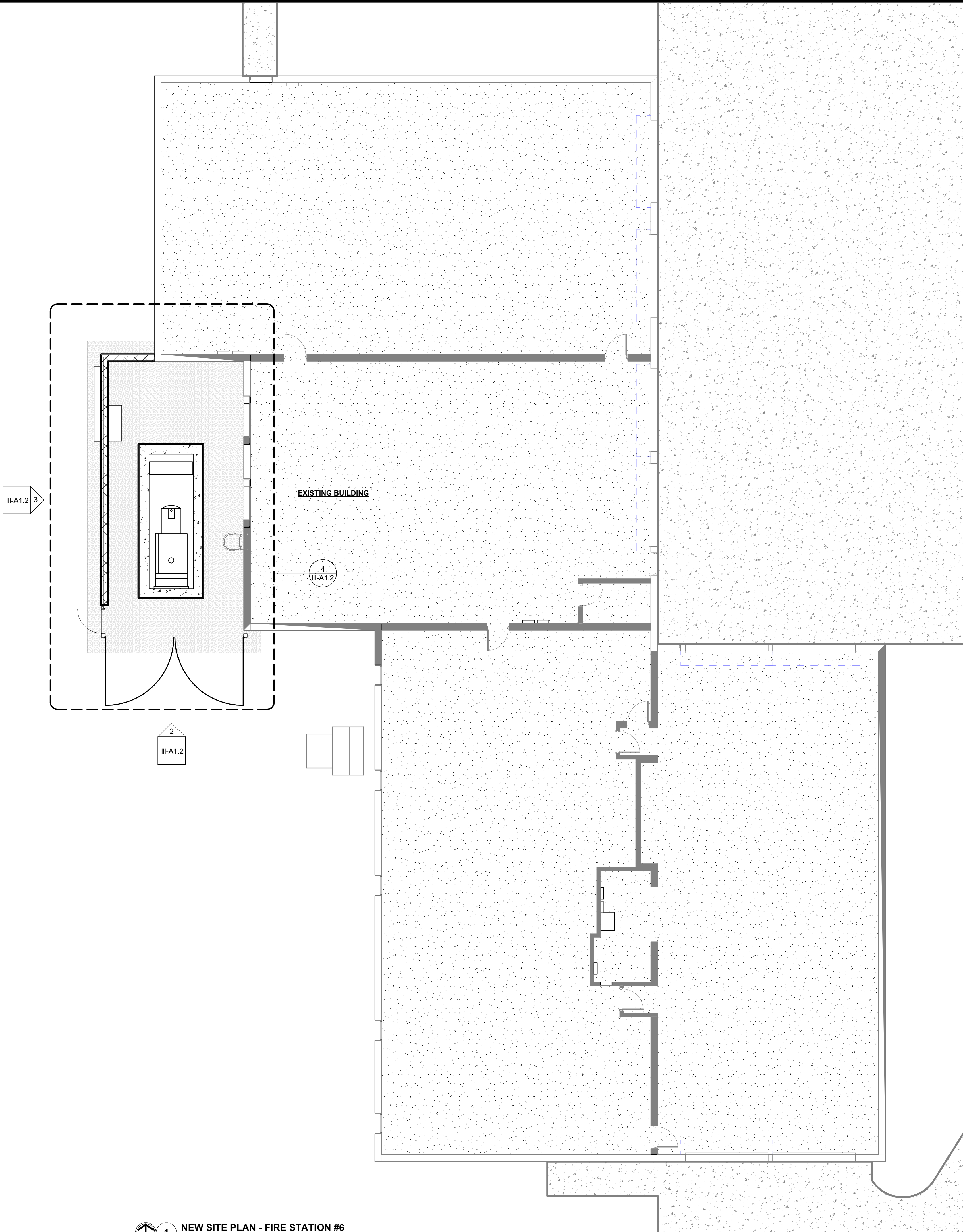
DRAWN: Author	CHKD: Chkd
DESIGNED: Designer	
APPRVD: Approver	
DATE: 08-03-2024	
PROJECT NUMBER	2142-7258-09

LIVONIA	MICHIGAN
CITY OF LIVONIA LIVONIA GENERATORS	
DEMO ARCHITECTURAL SITE PLAN - FIRE STATION #6	

DRAWING NUMBER	III-A1.0
ARCHITECTURE	



NEW SITE PLAN - FIRE STATION #6
SCALE: 1/8" = 1'-0"



GENERAL NOTES:

- A. REFER TO G1.1 FOR ADDITIONAL GENERAL NOTES AND INFORMATION.
- B. VERIFY PAD AND SCREEN WALL DIMENSIONS IN FIELD WITH CLIENT AND ARCHITECT PRIOR TO CONSTRUCTION.
- C. CONCRETE F'C = 4000PSI
- D. MASONRY F'M = 2000PSI
- E. FOUNDATION TO BEAR ON FIRM NATURAL MATERIAL. REMOVE ANY FILL, ORGANIC OR UNSUITABLE SOILS.
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NO.	REVISION	DATE
1	PERMIT SET	5/24/2024

DRAWN: Author	CHKD: Chkd
DESIGNED: Designer	
APPRYD: Approver	
DATE: 06-03-2024	
PROJECT NUMBER	2142-7258-09

LIVONIA	MI	CITY OF LIVONIA LIVONIA GENERATORS
NEW ARCHITECTURAL SITE PLAN - FIRE STATION #6		

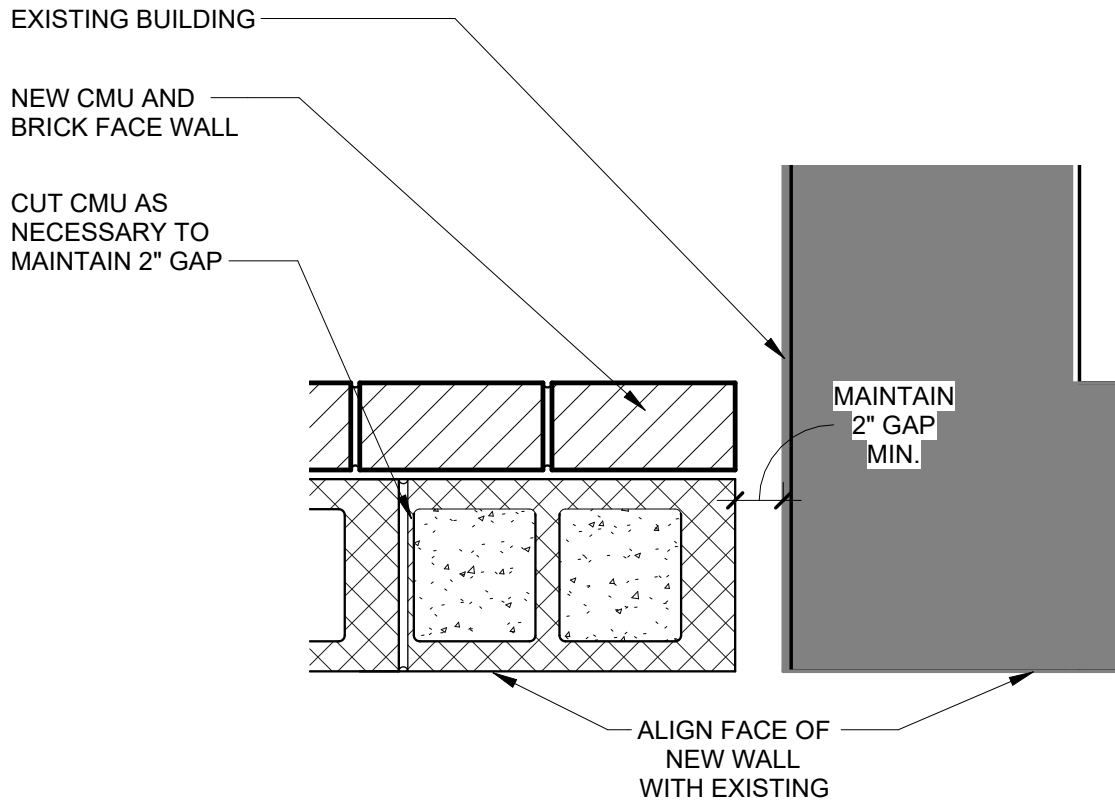
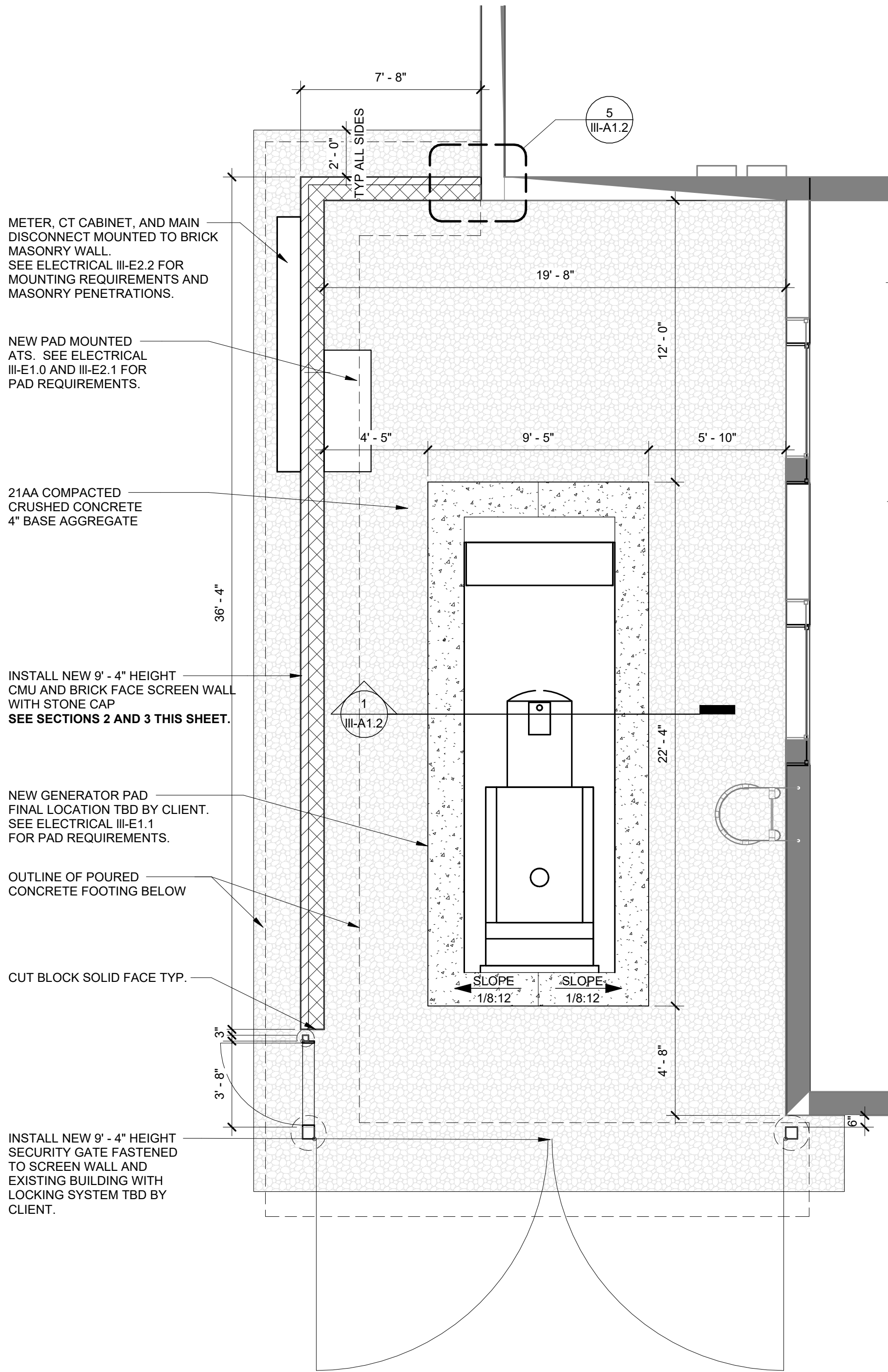
DRAWING NUMBER	III-A1.1
ARCHITECTURE	

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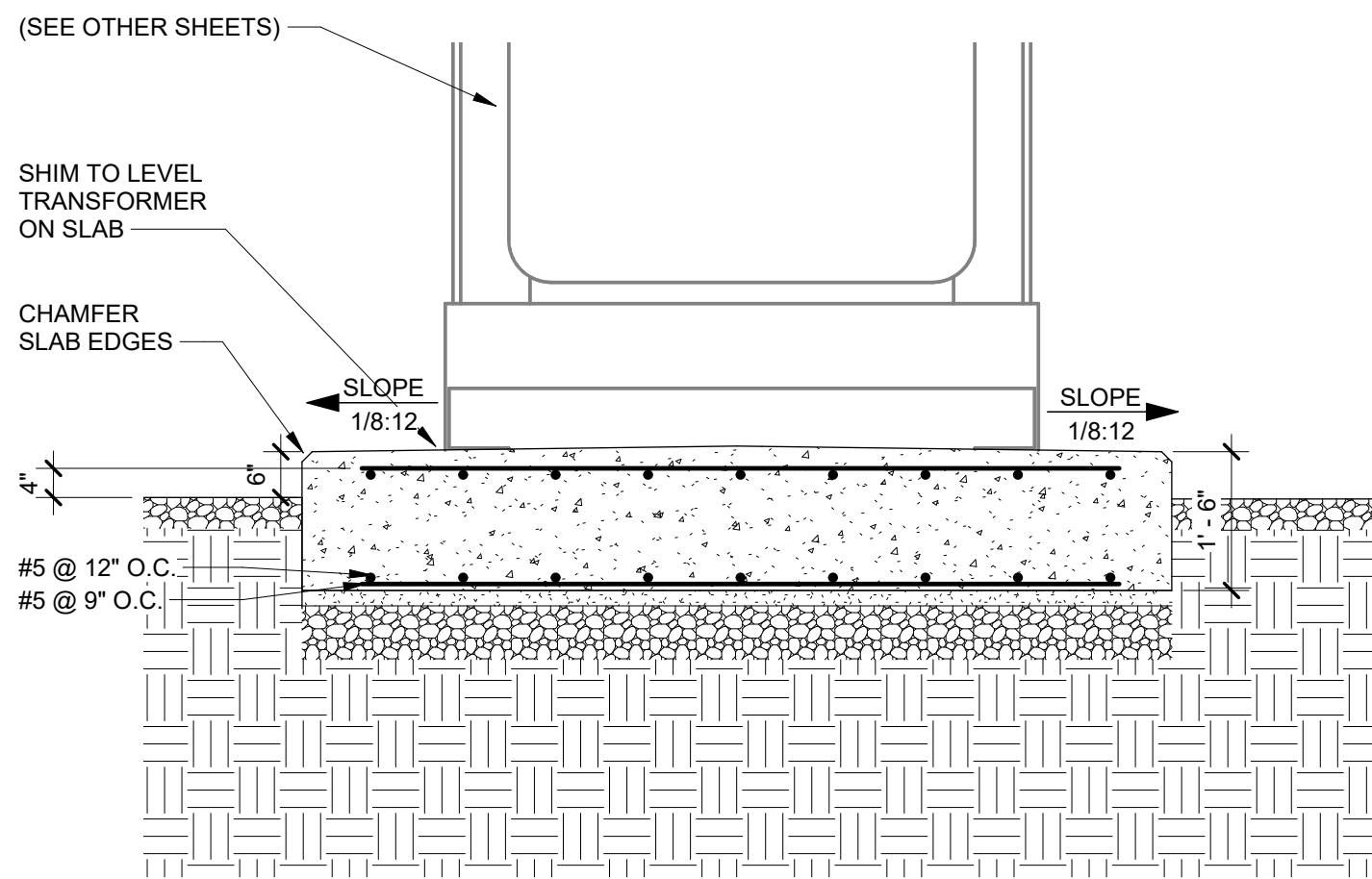
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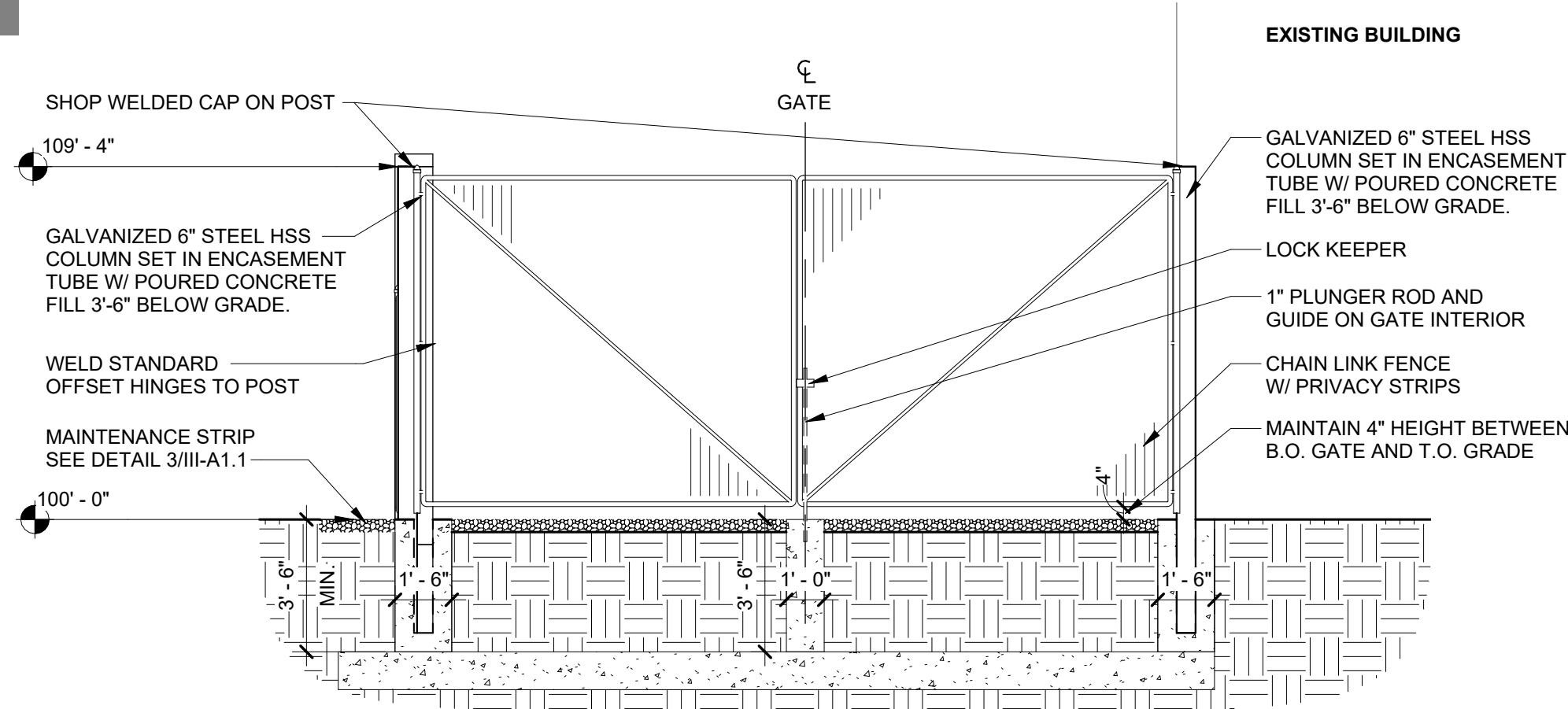
4 NEW SITE PLAN - FIRE STATION #6 - ENLARGED PLAN
SCALE: 1/4" = 1'-0"



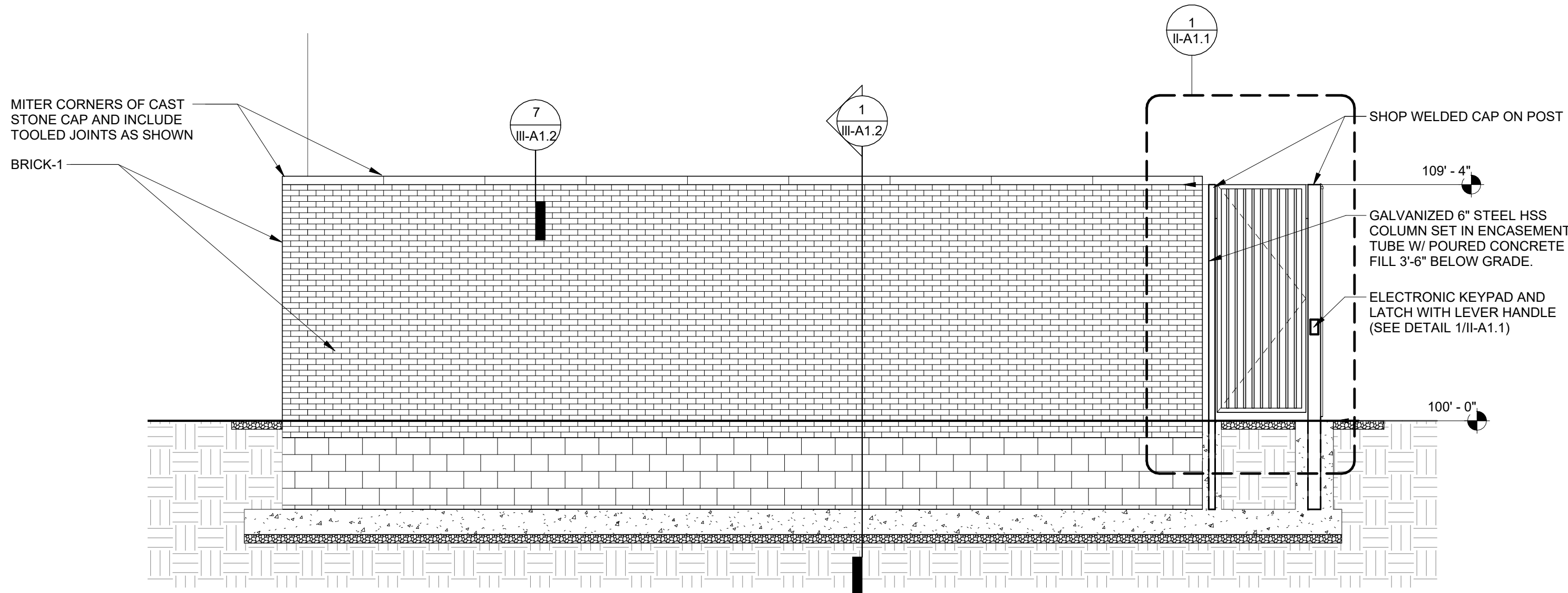
5 SCREEN WALL CONNECTION DETAIL
SCALE: 1 1/2" = 1'-0"



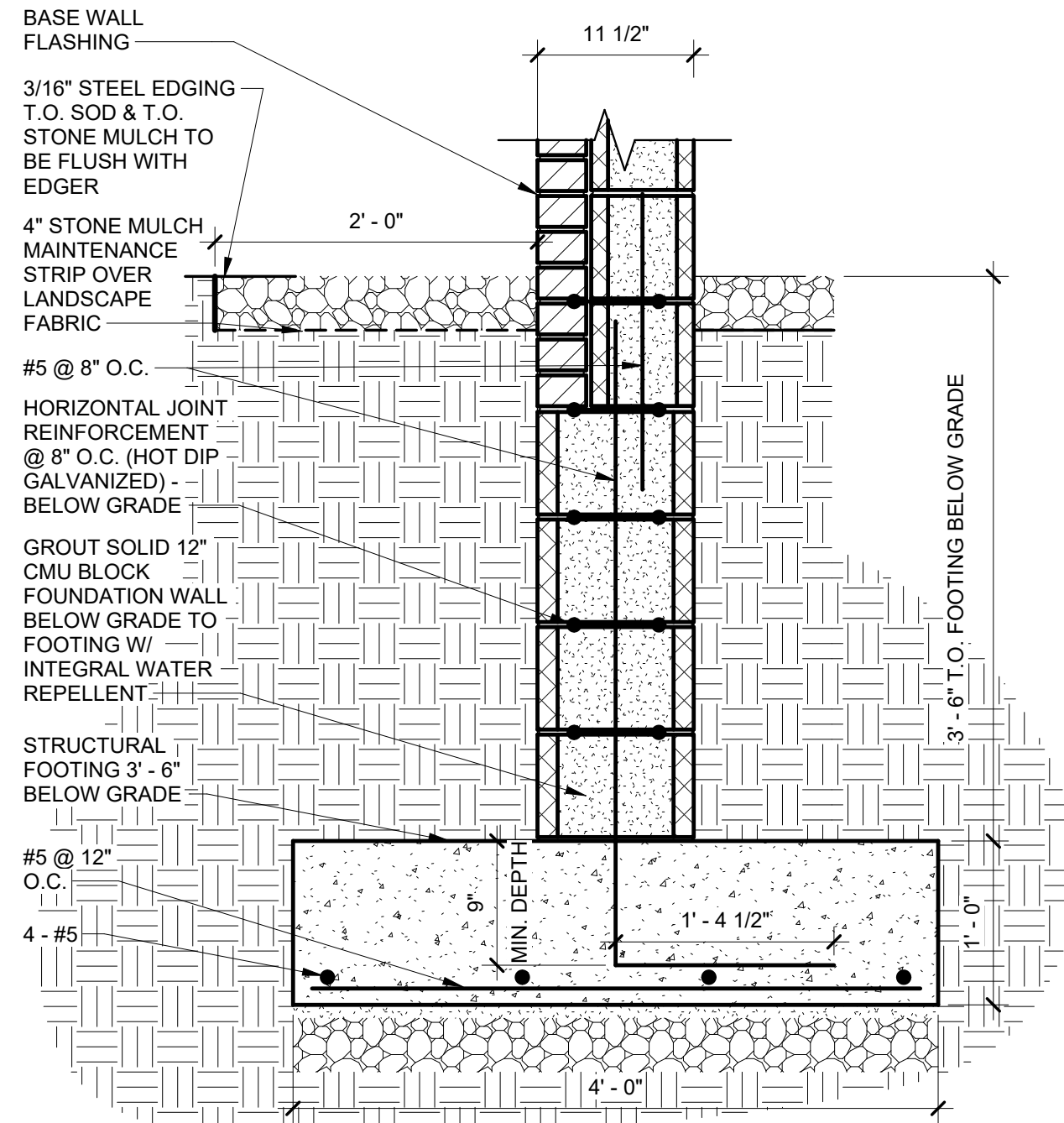
1 18" SLAB SECTION - FIRE STATION #6
SCALE: 1/2" = 1'-0"



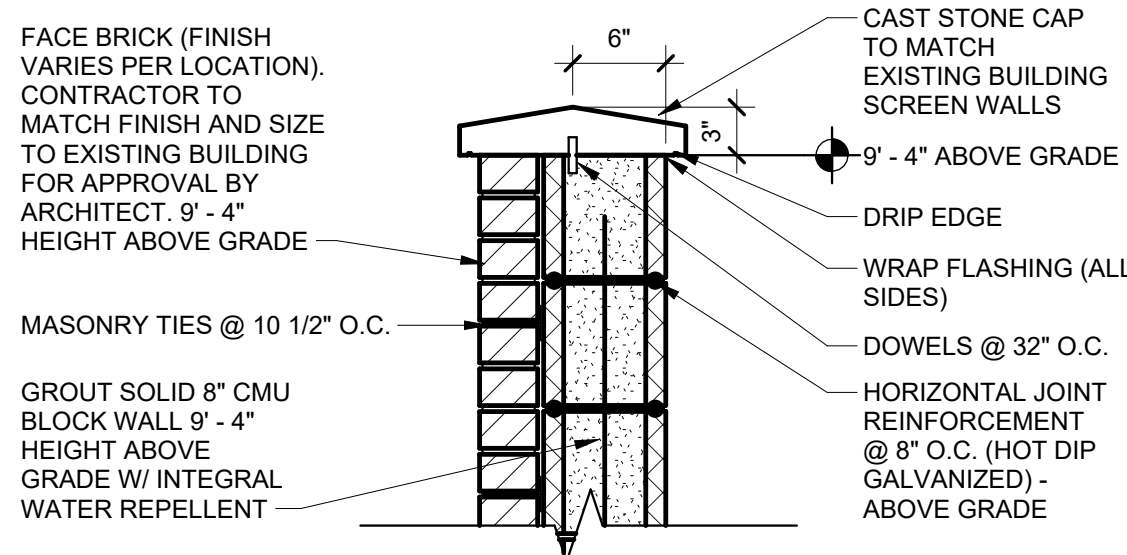
2 GATE ELEVATION
SCALE: 1/4" = 1'-0"



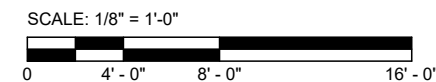
3 SERVICE GATE ELEVATION
SCALE: 1/4" = 1'-0"



6 CMU SCREEN WALL FOUNDATION/FOOTING SECTION
SCALE: 1" = 1'-0"



7 CMU/BRICK WITH CAP SCREEN WALL SECTION
SCALE: 1" = 1'-0"



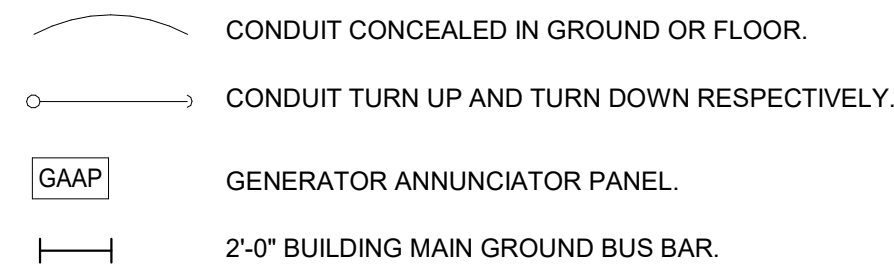
GENERAL NOTES:

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- BACKFILL WITH ENGINEERED FILL AND COMPACT TO 95% MODIFIED PROCTOR.
- CONTRACTOR TO PROVIDE TEMPORARY UTILITIES AND EQUIPMENT; COORD. WITH ELECTRICAL DOCUMENTS.

DRAWING NUMBER	III-A1.2	ARCHITECTURE
LIVONIA	CITY OF LIVONIA LIVONIA GENERATORS	NEW ARCHITECTURAL PLAN - FIRE STATION #6
MI	DATE: 06-03-2024 PROJECT NUMBER: 2142-7258-09	
DRAWN: Author DESIGNED: Designer APPROVED: Approver	CHECKED: Check NO. 1	REVISION 1 PERMIT SET
DATE: 5/24/2024		



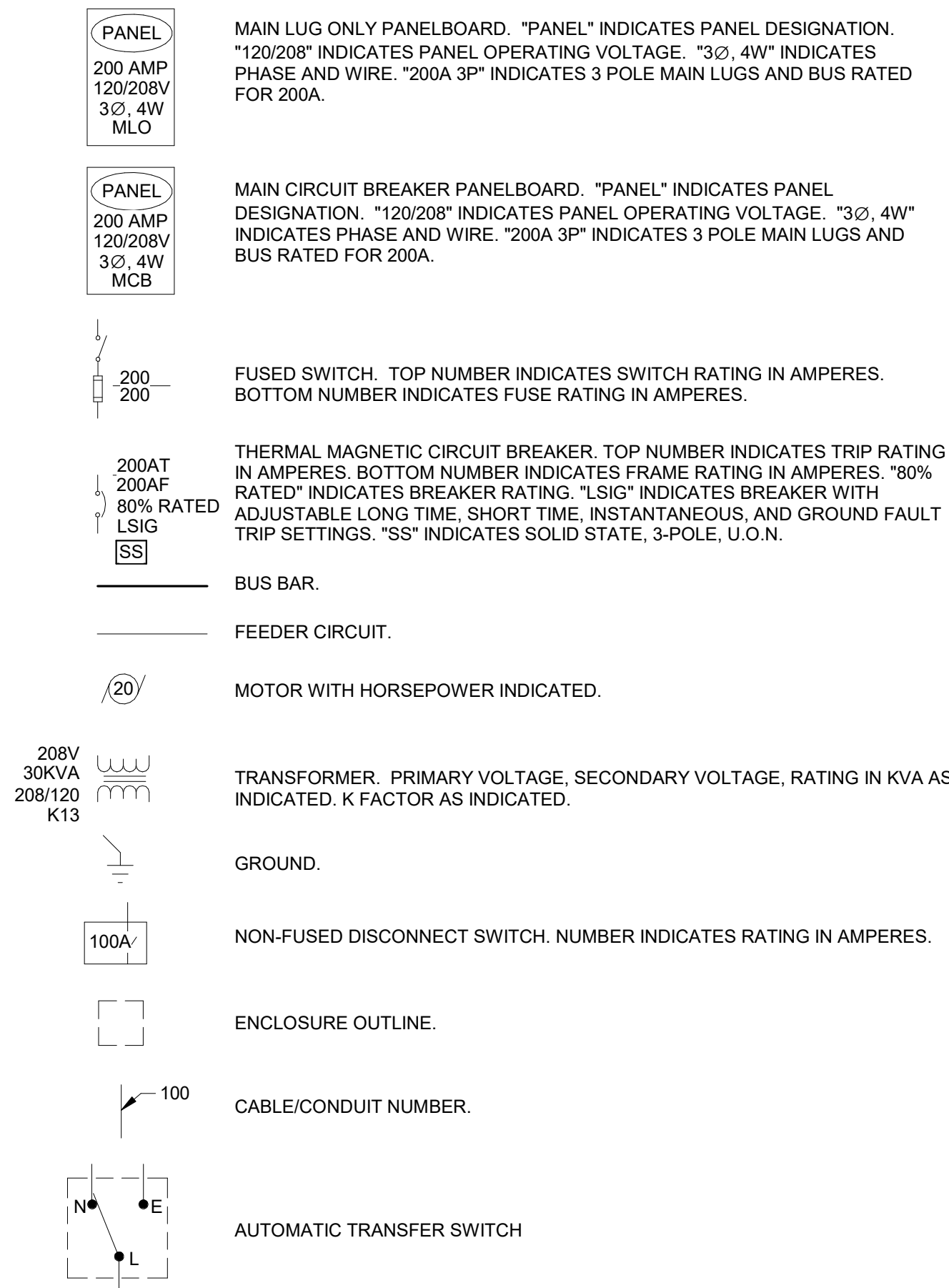
POWER SYMBOLS:



SITE ELECTRICAL SYMBOLS:

-- BCOMM --	DIRECT BURIED CONDUIT FOR COMMUNICATION CABLE(S).
-- BHV --	DIRECT BURIED CONDUIT FOR HIGH VOLTAGE CABLE (CABLE BY ELECTRIC UTILITY).
-- BC --	DIRECT BURIED CONDUIT FOR SIGNAL/CONTROL CABLE(S).
-- BE --	DIRECT BURIED CONDUIT FOR ELECTRICAL POWER CABLE(S).
-- BFO --	DIRECT BURIED CONDUIT FOR SECURITY FIBER OPTIC(S).
-- G --	DIRECT BURIED BARE COPPER GROUNDING ELECTRODE CABLE(S); BURY MINIMUM 30" BFG PER NEC.
	ELECTRICAL H/HANDHOLE "HH-EX" INDICATES ELECTRICAL HANDHOLE #X "HH-CX" INDICATES COMMUNICATION HANDHOLE #X
	5/8" DIAMETER X 10'-0"L COPPER CLAD GROUNDING ELECTRODE ROD WITH EXOOTHERMIC WELD CABLE CONNECTION.

ONE-LINE DIAGRAM SYMBOLS:



ABBREVIATIONS:

AF	AMPERE FUSE	MFR	MANUFACTURER
AFC	ABOVE FINISHED COUNTER	MIN	MINIMUM
AFF	ABOVE FINISHED FLOOR	MOC	MAXIMUM OVERCURRENT PROTECTION
AFG	ABOVE FINISHED GRADE	MTS	MANUAL TRANSFER SWITCH
ATS	AUTOMATIC TRANSFER SWITCH	MUTOA	MULTI-USER TELECOMMUNICATIONS OUTLET ASSEMBLY
BE	BURIED ELECTRIC		
BFG	BELOW FINISH GRADE	(N)	NEW
BFO	BURIED FIBER OPTIC	N/A	NOT APPLICABLE
BT	BURIED TELEPHONE	NEC	NATIONAL ELECTRICAL CODE
C	CONDUIT	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
CAT	CATEGORY	NL	NON-SWITCHED NIGHT LIGHT
CT	CURRENT TRANSFORMER	NTRL.	NEUTRAL
CU	COPPER	NTS	NOT TO SCALE
DED	DEDICATED	OCP	OVERCURRENT PROTECTIVE DEVICE
DFA	DROP FROM ABOVE	OL	OVERLOADS
DIV	DIVISION	P	POLE
DPW	DEPARTMENT PUBLIC WORKS	PF	POWER FACTOR
DS	DISCONNECT SWITCH	PH	PHASE
(ETR)	EXISTING TO REMAIN	POTS	PLAIN OLD TELEPHONE SYSTEM
(E)	EXISTING	ø	PHASE
EC	ELECTRICAL CONTRACTOR	RCPT	RECEPTACLE
EGC	EQUIPMENT GROUNDING CONDUCTOR	RECEPT	RECEPTACLE
EOC	ENGINEER OF RECORD	RM	ROOM
(F)	FUTURE	SE	SERVICE ENTRANCE
FAAP	FIRE ALARM ANNUNCIATOR PANEL	SP	SPARE
FACP	FIRE ALARM CONTROL PANEL	SPEC	SPECIFICATIONS
G	GROUND	SS	SOLID STATE (ELECTRONIC) BREAKER
GEC	GROUND ELECTRODE CONDUCTOR	SSOL	SOLID STATE OVERLOADS
GFI	GROUND FAULT INTERRUPT	ST	SAFETY TYPE
GRND	GROUND	SW	SWITCH
HOA	HAND OFF AUTOMATIC	(TBI)	TO BE INSTALLED
HLOA	HIGH LOW OFF AUTOMATIC	(TBR)	TO BE REMOVED
HNDLR	HANDLER	TWSH	TWISTED SHIELDED
IDF	INTERMEDIATE DISTRIBUTION FRAME	TV	TYPICAL
LSIG	LONG-TIME (L), SHORT-TIME (S), INSTANTANEOUS (I), GROUND FAULT (G)	UON	UNLESS OTHERWISE NOTED
LTG	LIGHTING	VFD	VARIABLE FREQUENCY DRIVE
MC	MECHANICAL CONTRACTOR	W	WATT
MCA	MINIMUM CIRCUIT AMPACITY	WG	WIRE GUARD
MCB	MAIN CIRCUIT BREAKER	WAP	WIRELESS ACCESS POINT
MDF	MAIN DISTRIBUTION FRAME	WP	WEATHERPROOF
		Z	IMPEDANCE

GENERAL NOTES:

- DRAWINGS ARE DIAGNOSTIC. FIELD COORDINATE/VERIFY LOCATIONS AND HEIGHTS FOR WIRING DEVICES, EQUIPMENT, ETC. PRIOR TO CONSTRUCTION. LOCATIONS SHALL BE FIELD VERIFIED.
- B. WORK SHALL BE IN CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE LATEST EDITION ADOPTED BY MICHIGAN, THE MICHIGAN ELECTRICAL CODE AMENDMENTS, LOCAL/MUNICIPAL CODES, AND THE AUTHORITY HAVING JURISDICTION.
 - C. CONNECTIONS TO EQUIPMENT SUBJECT TO MOVEMENT OR VIBRATION SHALL BE LIQUID TIGHT FLEXIBLE METAL CONDUIT, NOT LESS THAN 12" IN LENGTH, NOR GREATER THAN 36" IN LENGTH.
 - D. PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE SEALED WITH THE APPROPRIATE FIRE STOPPING MATERIAL TO MAINTAIN WALL FIRE RATING. REFER TO OWNER'S RECORD DRAWINGS FOR EXISTING FIRE RATED WALLS, CEILINGS, FLOORS, ETC. FIELD VERIFY FIRE RATINGS WITH ARCHITECT PRIOR TO CONSTRUCTION.
 - E. BRANCH CIRCUITS (I.E. LIGHTING, SMALL POWER, ETC.) SHALL BE A MINIMUM (2) #12, AND (1) #12 G, IN 3/4" CONDUIT UNLESS OTHERWISE NOTED. 120V, SINGLE PHASE BRANCH CIRCUIT(S) WITH 20A AND BELOW BREAKER(S) SHALL USE THE FOLLOWING MINIMUM CABLE SIZE TO ACCOMMODATE VOLTAGE DROP UON: LESS THAN 85'-0" #12 AWG; 85'-0" TO 140'-0" #10 AWG; 140'-0" TO 225'-0" #8 AWG.
 - F. CONTROL WIRING SHALL BE A MINIMUM (2) #14, (1) #14G, 3/4", UON.
 - G. CIRCUIT HOME RUNS SHALL NOT BE COMBINED IN A RACEWAY UON. SINGLE PHASE BRANCH CIRCUIT HOME RUNS MAY BE COMBINED AT THE CONTRACTOR'S DISCRETION NOT GREATER THAN (3) PHASE CONDUCTORS, (3) NEUTRAL CONDUCTORS, AND REQUIRED GROUNDING CONDUCTOR(S). CONTRACTOR SHALL INCREASE WIRE SIZE (DERATE CONDUCTOR AMPACITY) PER NEC TABLE 310.15(C)(1).
 - H. 120V, SINGLE PHASE BRANCH CIRCUIT(S) SHALL HAVE DEDICATED NEUTRAL(S). SHARED NEUTRALS SHALL NOT BE ACCEPTABLE..
 - I. SUPPORTING WIRE FOR THE SUSPENDED CEILING GRID SHALL NOT BE USED AS RACEWAY SUPPORT.
 - J. DISCONNECT SWITCH RATINGS SHALL BE AS INDICATED ON THE DRAWINGS.
 - K. MAJOR FEEDERS [FROM THE SWITCHBOARD TO PANELBOARDS, TRANSFORMERS, MOTORS AND OTHER LARGE EQUIPMENT] ARE NOT SHOWN ON THE ELECTRICAL PLANS. THESE FEEDERS ARE INCLUDED WITHIN THE SCOPE OF THE ELECTRICAL WORK AND ARE SHOWN ON THE ONE-LINE DIAGRAM(S) AND/OR RISER DIAGRAM(S).
 - L. ALL CONDUITS CROSSING EXPANSION JOINTS SHALL BE INSTALLED WITH EXPANSION FITTINGS, UNLESS THE CONDUIT IS BELOW SLAB IN THE COMPACTED GRANULAR FILL. EXPANSION FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE NEC AND MANUFACTURER'S WRITTEN RECOMMENDATIONS. REFER TO OWNER'S RECORD DRAWINGS FOR EXPANSION JOINT LOCATIONS. FIELD VERIFY EXPANSION JOINT LOCATIONS WITH ARCHITECT/STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.
 - M. THE CONTRACTOR SHALL FIELD COORDINATE/VERIFY EXACT HEIGHTS AND LOCATIONS FOR WIRING DEVICES. FIELD COORDINATE WITH CASEWORK SHOP DRAWINGS, OWNER'S FURNITURE PLANS, ETC. PRIOR TO CONSTRUCTION, TO DETERMINE EXACT LOCATIONS AND HEIGHTS.
 - N. THE WORD "PROVIDE," WHERE INDICATED ON ELECTRICAL DRAWINGS, IS TO BE DEFINED AS "FURNISH AND INSTALL".
 - O. CONTRACTOR SHALL FIELD COORDINATE/VERIFY CONDUIT PENETRATIONS THROUGH LOAD BEARING WALLS/CEILINGS/FLOORS, WITH STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.
 - P. ADJUST WIRING DEVICE BLOCK MOUNTING HEIGHT TO TOP OR BOTTOM OF BLOCK COURSING AS NEEDED SO BOXES DO NOT CROSS A MORTAR JOINT.
 - Q. MINIMIZE OUTAGES TO EXISTING POWER AND SYSTEMS DURING CONSTRUCTION. NOTIFY OWNER A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO PLANNED OUTAGES.

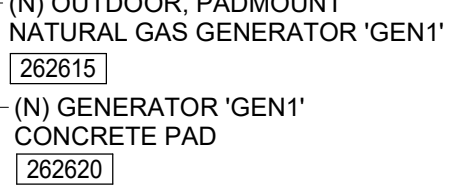
DRAWINGS ARE DIAGRAMMATIC. CONTRACTOR SHALL VISIT SITE, PRIOR TO BIDDING, TO FIELD DETERMINE/VERIFY EXISTING CONDITIONS (INCLUDING ALL ACCESSIBLE SPACES, AREAS, SPACES, EQUIPMENT, BOXES, ETC.). CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL WORK NECESSARY, NOT OTHERWISE INDICATED, AT NO ADDITIONAL COST TO OWNER. NOTIFY EOR, PRIOR TO BIDDING, WHERE EXISTING CONDITIONS REQUIRE ELECTRICAL WORK NOT OTHERWISE INDICATED.

[illegible]

DRAWN: J.B.	CHK'D: J.H.
DESIGNED: J.BUANI	
APPR'D: J.HAINES	
DATE: 06-04-2024	
PROJECT NUMBER	
2142-7258-09	

LIVONIA	MICHIGAN
CITY OF LIVONIA GENERATOR REPLACEMENTS	
GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS	

E0.1	DRAWING NUMBER	ELECTRICAL
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- 6 BUILDING MAIN GROUND BUS BAR 'MGB-1' DETAIL**
SCALE: N.T.S.



- 3 TYPICAL EXTERIOR EQUIPMENT PAD DETAIL**
SCALE: N.T.S.

**MISS DIG 811**

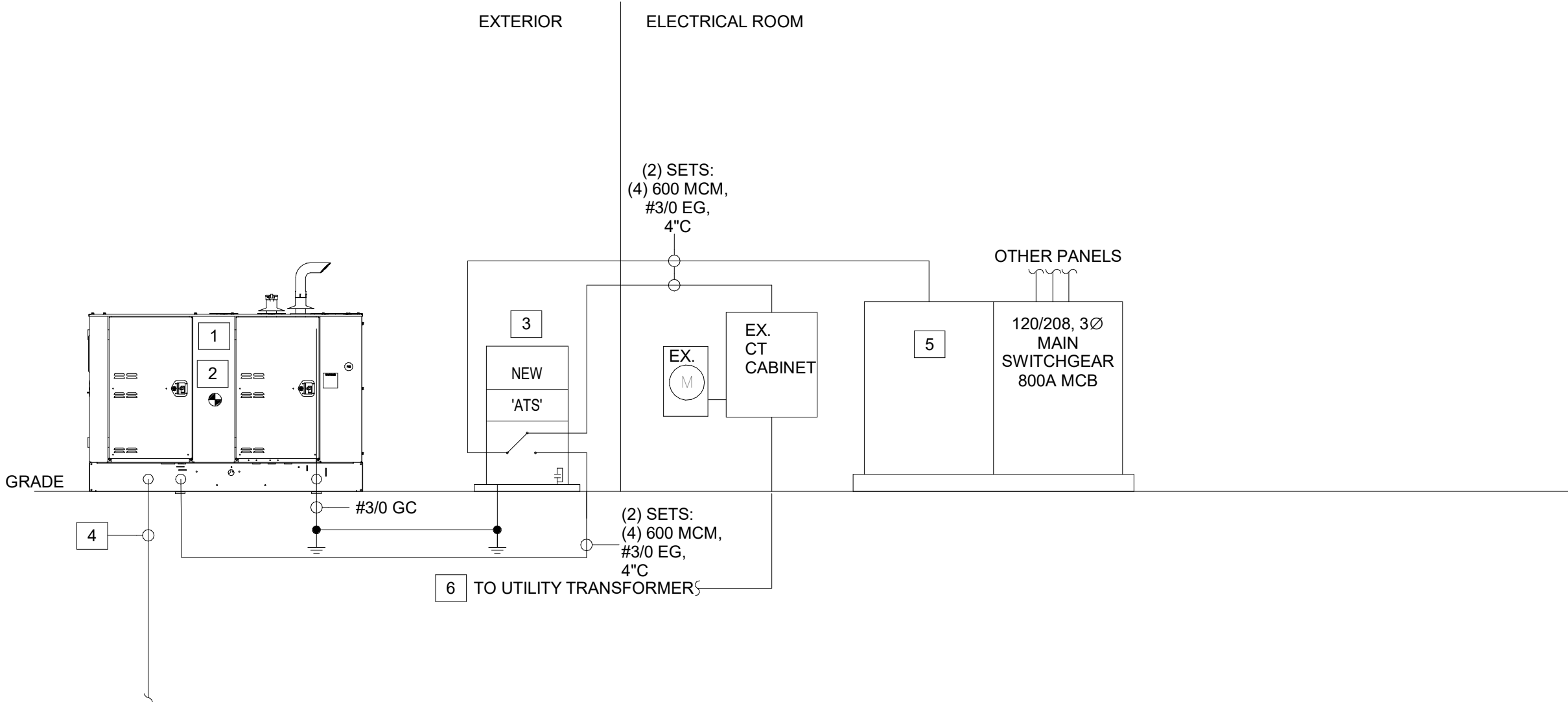
KEYNOTES

- | | |
|--------|--|
| 262615 | <p>PROVIDE OUTDOOR NATURAL GAS GENERATOR 'GEN1' MOUNT ON CONCRETE EQUIPMENT PAD. FOR CONCRETE EQUIPMENT PAD DETAIL, REFER TO DETAIL #3 THIS DRAWING. FIELD COORDINATE/VERIFY EXACT LOCATION FOR GASET/EQUIPMENT PAD WITH OWNER'S CONSTRUCTION REPRESENTATIVE. PRIOR TO CONSTRUCTION, GENERATOR SHALL BE INSTALLED A MINIMUM 5'-0" FROM THE EXISTING BUILDING. FOR ADDITIONAL GENERATOR REQUIREMENTS, REFER TO RISER DIAGRAM ON DRAWING I-E2.1.</p> |
| 262616 | <p>PROVIDE OUTDOOR AUTOMATIC TRANSFER SWITCH 'ATS1'. MOUNT ON CONCRETE EQUIPMENT PAD. FOR CONCRETE EQUIPMENT PAD DETAIL, REFER TO DETAIL #3 THIS DRAWING. FIELD COORDINATE/VERIFY EXACT LOCATION FOR AUTOMATIC TRANSFER SWITCH/EQUIPMENT PAD WITH OWNER'S CONSTRUCTION REPRESENTATIVE. PRIOR TO CONSTRUCTION, FOR ADDITIONAL AUTOMATIC TRANSFER SWITCH REQUIREMENTS, REFER TO RISER DIAGRAM ON DRAWING I-E2.1.</p> |
| 262620 | <p>PROVIDE 18" THICK X 93.5" WIDE X 210.7" LONG CONCRETE PAD (FC = 4000 PSI) REINFORCED WITH #5 BARS SPACED @ 9" O.C. (TOP AND BOTTOM) OVER 6" THICK COMPACTED AGGREGATE BASE. SET TOP OF SLAB 6" ABOVE FINISH GRADE. VERIFY WITH GENERATOR VENDOR FOR DIMENSIONS AND REQUIREMENTS PRIOR TO INSTALL.</p> |
| 262622 | <p>PROVIDE COUNTERPOISE GROUNDING ELECTRODE SYSTEM WITH TWO (2) 5/8" DIA. X 10'-0" COPPER CLAD GROUNDING ELECTRODE RODS. BOND TO GENERATOR GROUND LUG (INSIDE GENERATOR HOUSING). BOND TO GENSET ENCLOSURE FRAME IN A MINIMUM OF TWO (2) LOCATIONS. USE EXOTHERMIC WELDS UCN.</p> |
| 262623 | <p>PROVIDE (N) 1" (2#14 FOR START/STOP CONTROL, 2, #14 FOR START/STOP SIGNAL CONFIRMATION PER NEC, 8 #14 FOR MISC. ATS STATUS, 4 #14 SPARE, #14G).</p> |
| 262624 | <p>PROVIDE (N) 1" (COMMUNICATION CABLE; I.E. RS485 CABLE; FIELD COORDINATE/VERIFY CABLE TYPE/QTY WITH GENSET VENDOR PRIOR TO CONSTRUCTION; USE LONG RADIUS CONDUIT BENDS).</p> |
| 262625 | <p>CORE THROUGH THE EXTERIOR WALL OF BUILDING AND PROVIDE LINK SEAL FOR CONDUIT PENETRATION THROUGH WALL. FOR LINK SEAL DETAIL, SEE DETAIL #5 THIS DRAWING.</p> |
| 262626 | <p>MOUNT REMOTE GENSET ANNUNCIATOR PANEL 'GAAP1' IN SIX GANG WIRING DEVICE BOX. FIELD DETERMINE/VERIFY WIRING DEVICE BOX REQUIREMENTS WITH GENSET VENDOR PRIOR TO CONSTRUCTION. SURFACE MOUNT WIRING DEVICE BOX ON EXISTING WATER PIPING, EXISTING GROUNDING ELECTRODE SYSTEM, ETC.) FIELD COORDINATE/VERIFY LOCATION IS ACCEPTABLE TO OWNER'S CONSTRUCTION REPRESENTATIVE PRIOR TO CONSTRUCTION.</p> |
| 262627 | <p>PROVIDE (N) MAIN BUILDING GROUND BUS BAR 'MGB1'. WALL MOUNT +8'-0" AFF. FOR GROUND BUS BAR DETAIL, SEE DETAIL #7 THIS DRAWING.</p> |
| 262628 | <p>BOND (N) MAIN BUILDING GROUND BUS BAR 'MGB1' TO ALL AVAILABLE GROUNDING ELECTRODES IN BUILDING PER NEC (I.E. CONCRETE ENCASED REBAR [UFER], BUILDING STEEL, GROUNDING ELECTRODE ROD[S], METALLIC WATER PIPING, EXISTING GROUNDING ELECTRODE SYSTEM, ETC.). FIELD COORDINATE/DETERMINE EXACT REQUIREMENTS PRIOR TO CONSTRUCTION.</p> |
| 262629 | <p>PROVIDE #3/0 BARE COPPER GROUNDING ELECTRODE CABLE. DIRECT BURY A MINIMUM 30" BFG PER NEC.</p> |
| 262630 | <p>PROVIDE EXOTHERMIC WELD FOR GROUNDING ELECTRODE CABLE CONNECTION.</p> |

DRAWN: J.B.	CHECKED: J.H.	NO.	REVISION	DATE
DESIGNED: J. BILANI				
APPROVED: J. HAINES				
DATE: 06-04-2024				
PROJECT NUMBER				
2142-7258-09				

RISER NOTES

1. PROVIDE GENERAC SG230 120/208V, 3Ø 230KW GENERATOR IN WEATHER PROTECTED ENCLOSURE OR APPROVED EQUAL. GENERATOR AND ACCESSORIES SHALL BE PROVIDED BY CONTRACTOR. COORDINATE EXACT LOCATION WITH OWNER. COORDINATE NATURAL GAS CONNECTION WITH LOCAL UTILITY COMPANY. VERIFY PAD REQUIREMENTS PRIOR TO INSTALL.
2. PROVIDE ELECTRONIC TRIP TYPE MAIN CIRCUIT BREAKER. BOND NEUTRAL AND GROUND AT GENERATOR.
3. NEW EXTERIOR PAD MOUNTED SERVICE ENTRANCE RATED UTILITY AND GENERATOR RATED DISCONNECT BREAKER, NEMA-3R 120/208V, 3Ø 800A OPEN TYPE AUTOMATIC TRANSFER SWITCH ASCO MODEL H7ACPB830800C50M 7000 SERIES BYPASS POWER TRANSFER SWITCH.
4. PROVIDE (2) #12, #12 EG, 3/4"Ø FOR GENERATOR BLOCK HEATER AND CONNECT TO EXISTING OPEN CIRCUIT IN PANEL.
5. CONTRACTOR TO VERIFY NEUTRAL GROUND BOND ARE NOT BONDED IN MAIN SWITCHBOARD.
6. CONTRACTOR TO VERIFY NEUTRAL GROUND BOND IN SERVICE TRANSFORMER.



RISER DIAGRAM (DPW BUILDING) - INSTALLATION
SCALE: N.T.S.

GENERAL NOTES

- A. SHADED LINES INDICATE EXISTING ELECTRICAL TO REMAIN UON.
- B. HEAVY AND XD LINES INDICATE EXISTING ELECTRICAL TO BE REMOVED UON.
- C. HEAVY LINES INDICATE NEW ELECTRICAL TO BE INSTALLED UON.
- D. MINIMIZE OUTAGES TO EXISTING POWER DISTRIBUTION SYSTEM. PROVIDE OWNER A MINIMUM OF TEN (10) WORKING DAYS OF ADVANCED NOTICE OF PLANNED OUTAGES. PROVIDE TEMPORARY POWER AS NECESSARY DURING PLANNED OUTAGES.
- E. CONTRACTOR SHALL FIELD DETERMINE SEQUENCE OF CONSTRUCTION TO MINIMIZE OUTAGES TO EXISTING POWER DISTRIBUTION SYSTEM. PROVIDE TEMPORARY POWER AS NECESSARY DURING PLANNED OUTAGES. SUBMIT SEQUENCE OF CONSTRUCTION, TO OWNER'S CONSTRUCTION REPRESENTATIVE, PRIOR TO CONSTRUCTION, FOR REVIEW/APPROVAL.
- F. EXISTING UTILITY LOCATIONS SHOWN MAY BE DIAGRAMMATIC OR NOT SHOWN. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING ALL EXISTING UTILITIES.
- G. DIRECT BURY CONDUITS A MINIMUM 36" BELOW FINISHED GRADE UNLESS OTHERWISE NOTED. FOR DIRECT BURIED CONDUIT DETAIL, REFER TO DETAIL #4 THIS DRAWING.
- H. USE GALVANIZED RIGID CONDUIT SLEEVES UNDER PAVED TRAFFIC ROADWAYS/PARKING LOT AREAS AND 5'-0" BEYOND THESE AREAS.
- I. CONDUIT ROUTINGS INDICATED ARE DIAGRAMMATIC. FIELD TRACE AND DETERMINE ALL ROUTINGS PRIOR TO CONSTRUCTION. WHERE NECESSARY, USE HAND DIGGING TO MINIMIZE OUTAGES TO EXISTING UNDERGROUND.
- J. CONTRACTOR SHALL PATCH AND REPAIR ALL SURFACES DISTURBED TO MATCH EXISTING UNLESS OTHERWISE NOTED. WHERE POSSIBLE, COORDINATE UNDERGROUND ROUTINGS TO MINIMIZE PATCH AND REPAIR WORK. CONTRACTOR SHALL FIELD COORDINATE EXACT CONDUIT ROUTINGS PRIOR TO CONSTRUCTION TO AVOID UNDERGROUND UTILITIES, OBSTRUCTIONS, OR OTHER OBSTACLES REQUIRED TO MINIMIZE ELECTRICAL OUTAGES.



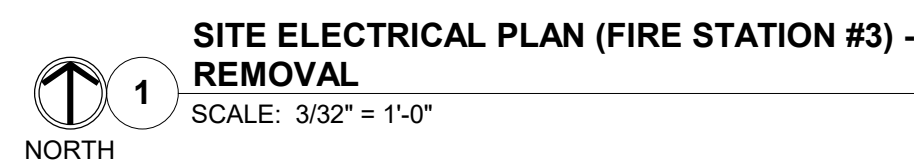
NO.	REVISION	DATE

DRAWN: J.B.	CHKD: J.H.
DESIGNED: J. BUJANI	
APPROVD: J. HAINES	
DATE: 06-04-2024	
PROJECT NUMBER	2142-7258-09

LIVONIA	MICHIGAN
CITY OF LIVONIA	
GENERATOR REPLACEMENTS	
RISER DIAGRAM (DPW BUILDING) - INSTALLATION	

DRAWING NUMBER	I-E2.1
ELECTRICAL	

DRAWINGS ARE DIAGRAMMATIC. CONTRACTOR SHALL VISIT SITE, PRIOR TO BIDDING, TO FIELD DETERMINE/VERIFY EXISTING CONDITIONS (INCLUDING ALL ACCESSIBLE SPACES, AREAS, SPACES, EQUIPMENT, BOXES, ETC.). CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL WORK NECESSARY, NOT OTHERWISE INDICATED, AT NO ADDITIONAL COST TO OWNER. NOTIFY EOR, PRIOR TO BIDDING, WHERE EXISTING CONDITIONS REQUIRE ELECTRICAL WORK NOT OTHERWISE INDICATED.



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DRAWING NUMBER	II-E1.0	ELECTRICAL
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PROVIDE GENERAC SG150 120/208V, 3Ø 150KW IN LEVEL
 AUSTIC AND WEATHER PROTECTED ENCLOSURE OR
 DRAINAGE EQUAL. PROVIDE 600A, 100% RATED GROUND
 INDICATION OUTPUT BREAKER. GENERATOR AND
 ACCESSORIES SHALL BE PROVIDED BY CONTRACTOR.
 DETERMINE EXACT LOCATION WITH OWNER.
 DEMOLISH NATURAL GAS CONNECTION WITH LOCAL
 GAS COMPANY. VERIFY PAD REQUIREMENTS PRIOR TO
 INSTALL.
 PROVIDE ELECTRICAL TRIP TYPE MAIN CIRCUIT
 BREAKER. BOND NEUTRAL AND GROUND AT GENERATOR.
 PROVIDE (2) #12, #12 EG, 3/4" FOR GENERATOR START
 WIRE AND CONNECT TO EXISTING OPEN CIRCUIT IN
 TRANSFORMER.
 PROVIDE (2) #12, #12 EG, 3/4" FOR GENERATOR BLOCK
 WIRE AND CONNECT TO EXISTING OPEN CIRCUIT IN
 TRANSFORMER.
 VERIFY NEUTRAL AND GROUND BONDED AT
 TRANSFORMER. IF BONDED AT SWITCHBOARD REMOVE
 JUMPING JUMPER AND BOND AT TRANSFORMER AND
 GENERATOR.
 PROVIDE EXTERIOR PAD MOUNTED SERVICE ENTRANCE
 CABLE TO UTILITY AND GENERATOR RATED DISCONNECT
 BREAKER, NEMA-3R 120/208V, 3Ø 600A OPEN TYPE
 TRANSFER SWITCH ASCO MODEL
 3BBB30600C5000 7000 SERIES BYPASS POWER
 TRANSFER SWITCH. VERIFY PAD REQUIREMENTS WITH
 MANUFACTURER PRIOR TO INSTALL.
 RELOCATE EXISTING CONDUIT AND CONDUCTORS TO
 NEW PANEL "EDP". EXTEND/MODIFY EXISTING
 CONDUITS AS REQUIRED AND RECONNECT. REPLACE
 CONDUIT AS REQUIRED.
 DEMOLISH GENERATOR TO BE DEMOLISHED. EXISTING
 ENCLOSURE TO BE ABANDONED IN PLACE. DEMOLISH ALL
 GENERATOR RELATED EQUIPMENT INCLUDING JUNCTION
 BOXES, WIRE AND CONDUIT THAT DOES NOT REQUIRE
 REUSE. DEMOLITION.
 DEMOLISH EXISTING ATS. RELOCATE EXISTING WIRES AND
 CONDUIT TO NOTE 7. DEMOLISH ALL OTHERS BACK TO
 SERVICE IF POSSIBLE.
 VERIFY METER ENCLOSURE REQUIREMENTS WITH
 UTILITY.



RISER DIAGRAM (FIRE STATION #3)
SCALE: N.T.S.

SCALE: N.T.S.

- A. SHADED LINES INDICATE EXISTING ELECTRICAL TO REMAIN UON.
- B. HEAVY AND XD LINES INDICATE EXISTING ELECTRICAL TO BE REMOVED UON.
- C. HEAVY LINES INDICATE NEW ELECTRICAL TO BE INSTALLED UON.
- D. MINIMIZE OUTAGES TO EXISTING POWER DISTRIBUTION SYSTEM. PROVIDE OWNER A MINIMUM OF TEN (10) WORKING DAYS OF ADVANCED NOTICE OF PLANNED OUTAGES. PROVIDE TEMPORARY POWER AS NECESSARY DURING PLANNED OUTAGES.
- E. CONTRACTOR SHALL FIELD DETERMINE SEQUENCE OF CONSTRUCTION TO MINIMIZE OUTAGES TO EXISTING POWER DISTRIBUTION SYSTEM. PROVIDE TEMPORARY POWER AS NECESSARY DURING PLANNED OUTAGES. SUBMIT SEQUENCE OF CONSTRUCTION, TO OWNER'S CONSTRUCTION REPRESENTATIVE, PRIOR TO CONSTRUCTION, FOR REVIEW/APPROVAL.
- F. EXISTING UTILITY LOCATIONS SHOWN MAY BE DIAGRAMMATIC OR NOT SHOWN. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING ALL EXISTING UTILITIES.
- G. DIRECT BURY CONDUITS A MINIMUM 36" BELOW FINISHED GRADE UNLESS OTHERWISE NOTED. FOR DIRECT BURIED CONDUIT DETAIL, REFER TO DETAIL #4 THIS DRAWING.
- H. USE GALVANIZED RIGID CONDUIT SLEEVES UNDER PAVED TRAFFIC ROADWAYS/PARKING LOT AREAS AND 5'-0" BEYOND THESE AREAS.
- I. CONDUIT ROUTINGS INDICATED ARE DIAGRAMMATIC. FIELD TRACE AND DETERMINE ALL ROUTINGS PRIOR TO CONSTRUCTION. WHERE NECESSARY, USE HAND DIGGING TO MINIMIZE OUTAGES TO EXISTING UNDERGROUND.
- J. CONTRACTOR SHALL PATCH AND REPAIR ALL SURFACES DISTURBED TO MATCH EXISTING UNLESS OTHERWISE NOTED. WHERE POSSIBLE, COORDINATE UNDERGROUND ROUTINGS TO MINIMIZE PATCH AND REPAIR WORK. CONTRACTOR SHALL FIELD COORDINATE EXACT CONDUIT ROUTINGS PRIOR TO CONSTRUCTION TO AVOID UNDERGROUND UTILITIES OBSTRUCTIONS, OR OTHER OBSTACLES REQUIRED TO MINIMIZE ELECTRICAL OUTAGES.



DRAWN: J.B.	CHKD: J.H.	NO.	REVISION	DATE
DESIGNED: J.BIANI				
APPROVD: J. HAINES				
DATE: 06-04-2024				
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2142-7258-09				

LIVONIA	CITY OF LIVONIA GENERATOR REPLACEMENTS	MICHIGAN
RISER DIAGRAM (FIRE STATION #3) - INSTALLATION		

II-E.2.1

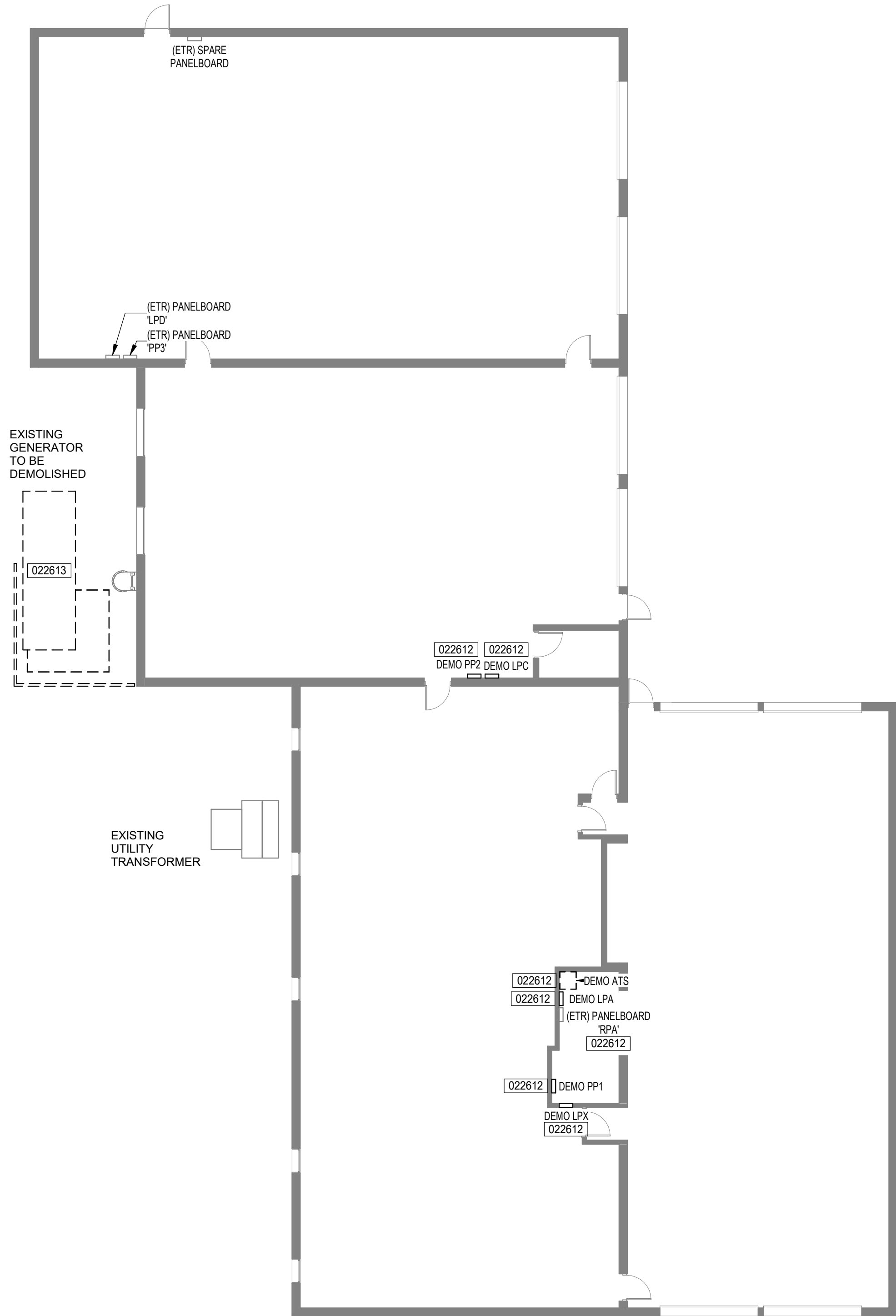
ELECTRICAI

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DRAWINGS ARE DIAGRAMMATIC. CONTRACTOR SHALL VISIT SITE, PRIOR TO BIDDING, TO FIELD DETERMINE/VERIFY EXISTING CONDITIONS (INCLUDING ALL ACCESSIBLE SPACES, AREAS, SPACES, EQUIPMENT, BOXES, ETC.). CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL WORK NECESSARY, NOT OTHERWISE INDICATED, AT NO ADDITIONAL COST TO OWNER. NOTIFY EOR, PRIOR TO BIDDING, WHERE EXISTING CONDITIONS REQUIRE ELECTRICAL WORK NOT OTHERWISE INDICATED.



**SITE ELECTRICAL PLAN (FIRE STATION #6) -
REMOVAL**
SCALE: 3/32" = 1'-0"

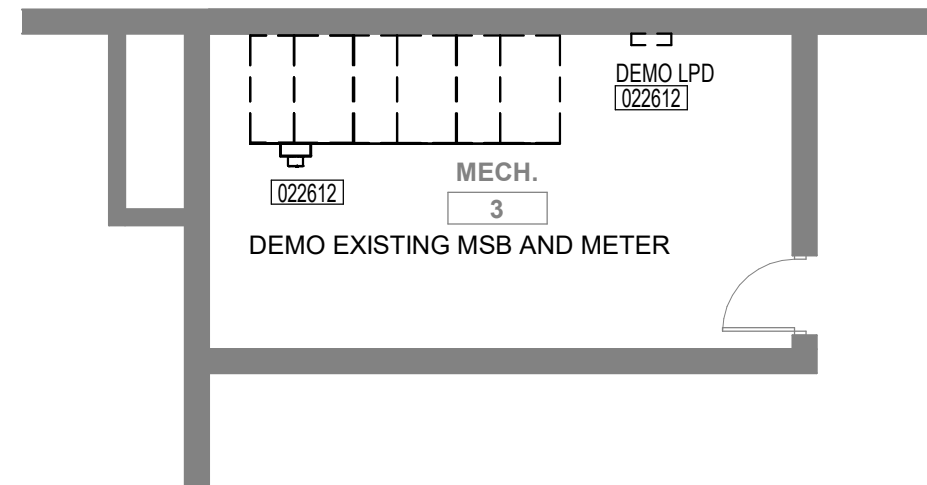


SPECIAL DEMOLITION NOTES:

1. REMOVE DEVICES AS SHOWN ON DEMOLITION PLAN.
2. REMOVE ALL ELECTRICAL WIRING ABANDONED BY DEMOLITION COMPLETELY BACK TO SOURCE AND UPDATE PANEL SCHEDULES. RECONNECT ALL CIRCUITS AS REQUIRED FOR EXISTING DEVICES THAT ARE NOT BEING DEMOLISHED. CONTRACTOR TO TAKE CAUTION IN DEMO OF ELECTRICAL TO ENSURE THAT LANDLORD'S CAMERA LINES AND JUNCTION BOXES LOCATED INSIDE THE PREMISE ARE NOT DAMAGED OR REMOVED.
3. REMOVE ALL CONDUIT ABANDONED BY DEMOLITION BACK TO SOURCE, WHERE REMOVAL IS NOT POSSIBLE DUE TO STRUCTURAL OR OTHER LIMITATIONS, CONDUIT SHALL BE CUT AT THE SURFACE AND CAPPED. ABANDONED CONDUIT SHALL BE TAGGED FOR FUTURE IDENTIFICATION.
4. REMOVE ALL FIRE ALARM SYSTEM WIRING AND DEVICES IN THE PROJECT AREA ABANDONED BY DEMOLITION. CONTRACTOR SHALL NOTIFY FIRE ALARM VENDOR BEFORE COMMENCING ANY DEMO OF ANY FIRE RELATED LINES / EQUIPMENT TO ENSURE PROPERTY ALARMS ARE NOT ADVERSELY AFFECTED.
5. COORDINATE WITH OWNER TO DETERMINE IF ANY MATERIALS SHALL BE RETURNED TO OWNER FOR BUILDING STOCK. ALL MATERIALS NOT SPECIFICALLY REQUESTED BY THE OWNER SHALL BE DISPOSED OF BY THE CONTRACTOR.
6. REMOVE ALL TELEPHONE/DATA WIRING ABANDONED BY DEMOLITION BACK TO SOURCE. COORDINATE WITH OWNER TO DETERMINE EXACT REQUIREMENTS PRIOR TO COMMENCEMENT OF WORK.
7. REUSE ANY JUNCTION BOXES AND CONDUITS WITHIN 12" OF PROPOSED LOCATION OF NEW DEVICE. SEE POWER PLAN FOR PROPOSED LOCATIONS.
8. CONTRACTOR SHALL VISIT THE JOB SITE TO DETERMINE THE EXTENT OF DEMOLITION WORK REQUIRED PRIOR TO SUBMITTING A BID.
9. CIRCUIT NUMBERS, WHICH ARE ASSUMED TO BE ACCURATE, ARE SHOWN ACCORDING TO FIELD LABELING. THESE CIRCUITS, WHICH ARE MADE AVAILABLE THROUGH DEMOLITION, ARE REUSED IN NEW DESIGN. UPON AWARD OF BID, CONTRACTOR SHALL VERIFY EXISTING FIELD CONDITIONS AND INFORM ENGINEER OF ANY DISCREPANCIES BETWEEN THESE DRAWINGS AND ACTUAL FIELD CONDITIONS.
10. CONTRACTOR SHALL REUSE CIRCUITS MADE AVAILABLE BY DEMOLITION PRIOR TO ADDING NEW CIRCUITS AND PANELBOARDS.



**ELECTRICAL PLAN (BASEMENT ELECTRICAL ROOM) -
REMOVAL**
SCALE: 1/8" = 1'-0"



DRAWINGS ARE DIAGRAMMATIC. CONTRACTOR SHALL VISIT SITE, PRIOR TO BIDDING, TO FIELD DETERMINE/VERIFY EXISTING CONDITIONS (INCLUDING ALL ACCESSIBLE SPACES, AREAS, SPACES, EQUIPMENT, BOXES, ETC.). CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL WORK NECESSARY, NOT OTHERWISE INDICATED, AT NO ADDITIONAL COST TO OWNER. NOTIFY EOR, PRIOR TO BIDDING, WHERE EXISTING CONDITIONS REQUIRE ELECTRICAL WORK NOT OTHERWISE INDICATED.

GENERAL NOTES

- A. SHADED LINES INDICATE EXISTING ELECTRICAL TO REMAIN UON.
- B. HEAVY AND XD LINES INDICATE EXISTING ELECTRICAL TO BE REMOVED UON.
- C. HEAVY LINES INDICATE NEW ELECTRICAL TO BE INSTALLED UON.
- D. MINIMIZE OUTAGES TO EXISTING POWER DISTRIBUTION SYSTEM. PROVIDE OWNER A MINIMUM OF TEN (10) WORKING DAYS OF ADVANCED NOTICE OF PLANNED OUTAGES. PROVIDE TEMPORARY POWER AS NECESSARY DURING PLANNED OUTAGES.
- E. CONTRACTOR SHALL FIELD DETERMINE SEQUENCE OF CONSTRUCTION TO MINIMIZE OUTAGES TO EXISTING POWER DISTRIBUTION SYSTEM. PROVIDE TEMPORARY POWER AS NECESSARY DURING PLANNED OUTAGES. SUBMIT SEQUENCE OF CONSTRUCTION, TO OWNER'S CONSTRUCTION REPRESENTATIVE, PRIOR TO CONSTRUCTION, FOR REVIEW/APPROVAL.
- F. EXISTING UTILITY LOCATIONS SHOWN MAY BE DIAGRAMMATIC OR NOT SHOWN. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING ALL EXISTING UTILITIES.
- G. DIRECT BURY CONDUITS A MINIMUM 36" BELOW FINISHED GRADE UNLESS OTHERWISE NOTED. FOR DIRECT BURIED CONDUIT DETAIL, REFER TO DETAIL #4 THIS DRAWING.
- H. USE GALVANIZED RIGID CONDUIT SLEEVES UNDER PAVED TRAFFIC ROADWAYS/PARKING LOT AREAS AND 5'-0" BEYOND THESE AREAS.
- I. CONDUIT ROUTINGS INDICATED ARE DIAGRAMMATIC. FIELD TRACE AND DETERMINE ALL ROUTINGS PRIOR TO CONSTRUCTION. WHERE NECESSARY, USE HAND DIGGING TO MINIMIZE OUTAGES TO EXISTING UNDERGROUND.
- J. CONTRACTOR SHALL PATCH AND REPAIR ALL SURFACES DISTURBED TO MATCH EXISTING UNLESS OTHERWISE NOTED. WHERE POSSIBLE, COORDINATE UNDERGROUND ROUTINGS TO MINIMIZE PATCH AND REPAIR WORK. CONTRACTOR SHALL FIELD COORDINATE EXACT CONDUIT ROUTINGS PRIOR TO CONSTRUCTION TO AVOID UNDERGROUND UTILITIES, OBSTRUCTIONS, OR OTHER OBSTACLES REQUIRED TO MINIMIZE ELECTRICAL OUTAGES.

KEYNOTES

- | | |
|--------|--|
| 022612 | EXISTING PANEL TO BE DEMOLISHED. SEE DETAILS SHEET III-E2.1. |
| 022613 | EXISTING PAD MOUNTED GENERATOR TO BE DEMOLISHED AND REPLACED. SEE SHEET 111-E2.2 FOR MORE INFORMATION. |



NO.	REVISION	DATE

DRAWN: J.B.	CHKD: J.H.
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APPRVD: J. HAINES	
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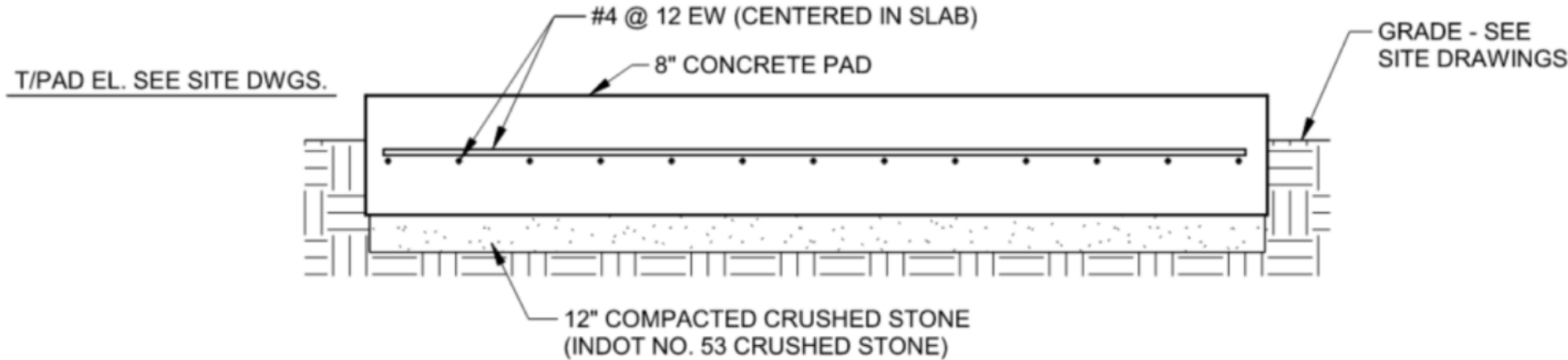
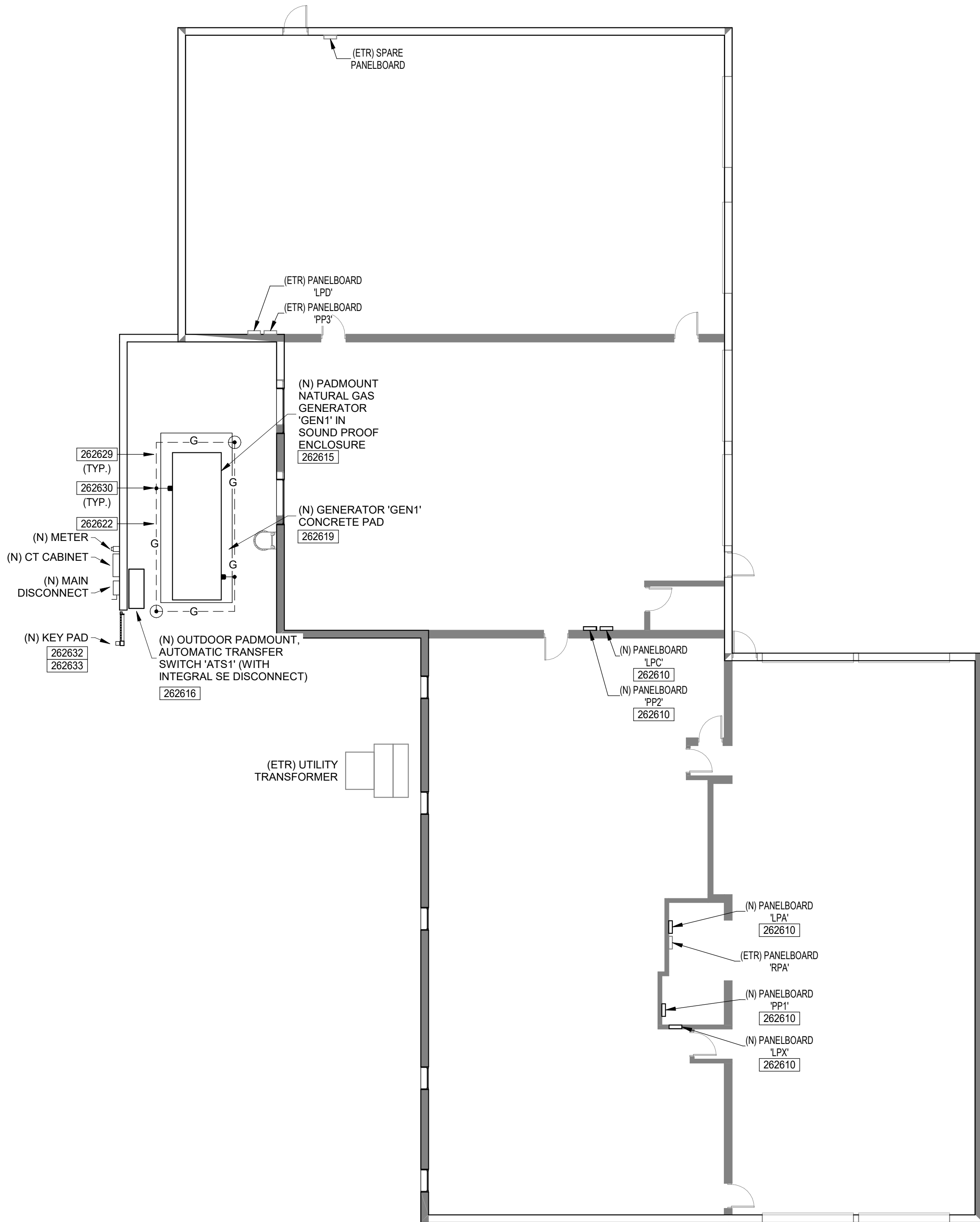
LIVONIA	MICHIGAN
CITY OF LIVONIA	GENERATOR REPLACEMENTS
ELECTRICAL	ELECTRICAL PLANS (FIRE STATION #6) - REMOVAL

DRAWING NUMBER	III-E1.0
	ELECTRICAL



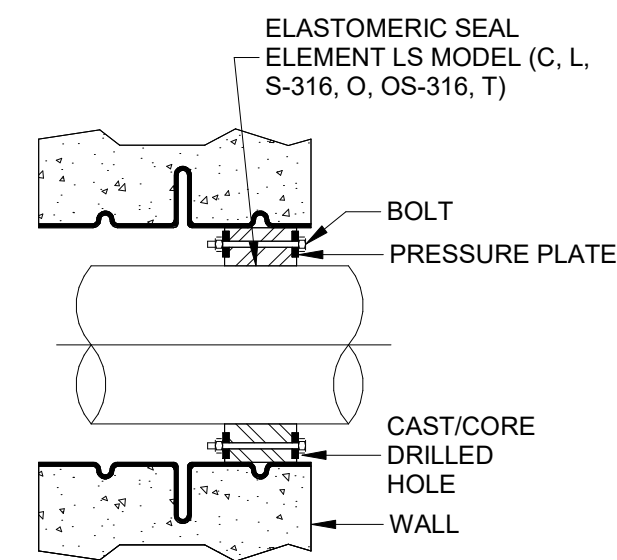


1 SITE ELECTRICAL PLAN (FIRE STATION #6) - INSTALLATION
SCALE: 3/32" = 1'-0"

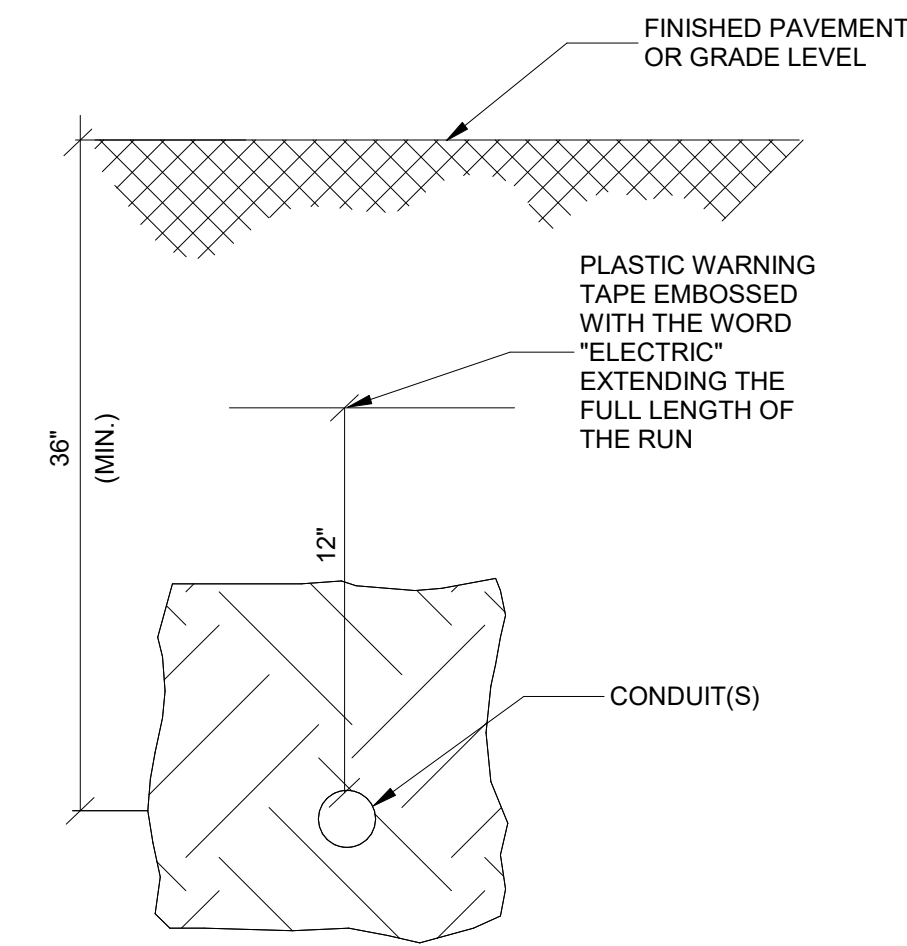


- NOTE:**
- COORDINATE LOCATION AND SIZE OF EQUIPMENT PAD WITH EQUIPMENT MANUFACTURER, MECHANICAL AND ELECTRICAL PLANS.
 - PAD TO BE A MINIMUM 12" LARGER THAN EQUIPMENT ON ALL SIDES

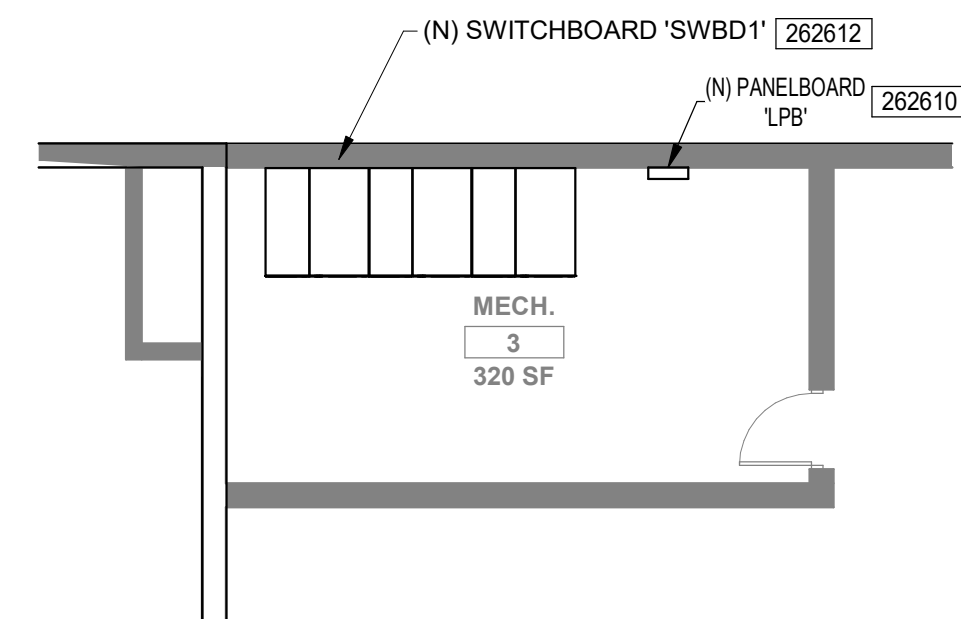
5 TYPICAL EXTERIOR EQUIPMENT PAD DETAIL
SCALE: N.T.S.



4 WALL PENETRATION LEAK SEAL DETAIL
SCALE: N.T.S.



3 DIRECT BURIED CONDUIT DETAIL
SCALE: N.T.S.



2 ELECTRICAL PLAN (BASEMENT ELECTRICAL ROOM) - INSTALLATION
SCALE: 1/8" = 1'-0"

DRAWINGS ARE DIAGRAMMATIC. CONTRACTOR SHALL VISIT SITE, PRIOR TO BIDDING, TO FIELD DETERMINE/VERIFY EXISTING CONDITIONS (INCLUDING ALL ACCESSIBLE SPACES, AREAS, SPACES, EQUIPMENT, BOXES, ETC.). CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL WORK NECESSARY, NOT OTHERWISE INDICATED, AT NO ADDITIONAL COST TO OWNER. NOTIFY EOR, PRIOR TO BIDDING, WHERE EXISTING CONDITIONS REQUIRE ELECTRICAL WORK NOT OTHERWISE INDICATED.

GENERAL NOTES

- SHADED LINES INDICATE EXISTING ELECTRICAL TO REMAIN UON.
- HEAVY AND XD LINES INDICATE EXISTING ELECTRICAL TO BE REMOVED UON.
- HEAVY LINES INDICATE NEW ELECTRICAL TO BE INSTALLED UON.
- MINIMIZE OUTAGES TO EXISTING POWER DISTRIBUTION SYSTEM. PROVIDE OWNER A MINIMUM OF TEN (10) WORKING DAYS OF ADVANCED NOTICE OF PLANNED OUTAGES. PROVIDE TEMPORARY POWER AS NECESSARY DURING PLANNED OUTAGES.
- CONTRACTOR SHALL FIELD DETERMINE SEQUENCE OF CONSTRUCTION TO MINIMIZE OUTAGES TO EXISTING POWER DISTRIBUTION SYSTEM. PROVIDE TEMPORARY POWER AS NECESSARY DURING PLANNED OUTAGES. SUBMIT SEQUENCE OF CONSTRUCTION, TO OWNER'S CONSTRUCTION REPRESENTATIVE, PRIOR TO CONSTRUCTION, FOR REVIEW/APPROVAL.
- EXISTING UTILITY LOCATIONS SHOWN MAY BE DIAGRAMMATIC OR NOT SHOWN. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING ALL EXISTING UTILITIES.
- DIRECT BURY CONDUITS A MINIMUM 36" BELOW FINISHED GRADE UNLESS OTHERWISE NOTED. FOR DIRECT BURIED CONDUIT DETAIL, REFER TO DETAIL #4 THIS DRAWING.
- USE GALVANIZED RIGID CONDUIT SLEEVES UNDER PAVED TRAFFIC ROADWAYS/PARKING LOT AREAS AND 5'-0" BEYOND THESE AREAS.
- CONDUIT ROUTINGS INDICATED ARE DIAGRAMMATIC. FIELD TRACE AND DETERMINE ALL ROUTINGS PRIOR TO CONSTRUCTION. WHERE NECESSARY, USE HAND DIGGING TO MINIMIZE OUTAGES TO EXISTING UNDERGROUND.
- CONTRACTOR SHALL PATCH AND REPAIR ALL SURFACES DISTURBED TO MATCH EXISTING UNLESS OTHERWISE NOTED. WHERE POSSIBLE, COORDINATE UNDERGROUND ROUTINGS TO MINIMIZE PATCH AND REPAIR WORK. CONTRACTOR SHALL FIELD COORDINATE EXACT CONDUIT ROUTINGS PRIOR TO CONSTRUCTION TO AVOID UNDERGROUND UTILITIES, OBSTRUCTIONS, OR OTHER OBSTACLES REQUIRED TO MINIMIZE ELECTRICAL OUTAGES.

KEYNOTES

- 262610 PROVIDE (N) PANELBOARD AND MOUNT IN THE SAME LOCATION AS THE EXISTING PANELBOARD TO BE REMOVED (REFER TO DRAWING III-E1.0 FOR EXISTING PANELBOARD TO BE REMOVED). RECONNECT EXISTING BRANCH CIRCUIT CABLE/CONDUIT(S) TO (N) PANELBOARD. REFER TO DRAWING III-E2.2 FOR ADDITIONAL REQUIREMENTS.
- 262612 MOUNT (N) SWITCHBOARD 'SWBD' ON CONCRETE HOUSEKEEPING PAD. REFER TO DETAIL #3 THIS DRAWING FOR CONCRETE HOUSEKEEPING PAD INSTALLATION DETAIL.
- 262615 PROVIDE OUTDOOR NATURAL GAS GENERATOR 'GEN1'. MOUNT ON CONCRETE EQUIPMENT PAD. FOR CONCRETE EQUIPMENT PAD DETAIL, REFER TO DETAIL #3 THIS DRAWING. FIELD COORDINATE/VERIFY EXACT LOCATION FOR GENSET/EQUIPMENT PAD WITH OWNER'S CONSTRUCTION REPRESENTATIVE, PRIOR TO CONSTRUCTION. GENERATOR SHALL BE INSTALLED A MINIMUM 5'-0" FROM THE EXISTING BUILDING. FOR ADDITIONAL GENERATOR REQUIREMENTS, REFER TO RISER DIAGRAM ON DRAWING I-E2.1.
- 262616 PROVIDE OUTDOOR AUTOMATIC TRANSFER SWITCH 'ATS1'. MOUNT ON CONCRETE EQUIPMENT PAD. FOR CONCRETE EQUIPMENT PAD DETAIL, REFER TO DETAIL #3 THIS DRAWING. FIELD COORDINATE/VERIFY EXACT LOCATION FOR AUTOMATIC TRANSFER SWITCH/EQUIPMENT PAD WITH OWNER'S CONSTRUCTION REPRESENTATIVE, PRIOR TO CONSTRUCTION. FOR ADDITIONAL AUTOMATIC TRANSFER SWITCH REQUIREMENTS, REFER TO RISER DIAGRAM ON DRAWING I-E2.1.
- 262619 PROVIDE 18" THICK X 112.9" WIDE X 268" LONG CONCRETE PAD (F'C = 4000 PSI) REINFORCED WITH #5 BARS SPACED @ 9" O.C. (TOP AND BOTTOM) OVER 6" THICK COMPACTED AGGREGATE BASE. SET TOP OF SLAB 6" ABOVE FINISH GRADE. VERIFY WITH GENERATOR VENDOR FOR DIMENSIONS AND REQUIREMENTS PRIOR TO INSTALL.
- 262622 PROVIDE COUNTERPOISE GROUNDING ELECTRODE SYSTEM WITH TWO (2) 5/8" DIA. X 10'-0" L COPPER CLAD GROUNDING ELECTRODE RODS. BOND TO GENERATOR GROUND LUG (INSIDE GENERATOR HOUSING). BOND TO GENSET ENCLOSURE FRAME IN A MINIMUM OF TWO (2) LOCATIONS. USE EXOTHERMIC WELDS UON.
- 262629 PROVIDE #3/0 BARE COPPER GROUNDING ELECTRODE CABLE. DIRECT BURY A MINIMUM 30" BFG PER NEC.
- 262630 PROVIDE EXOTHERMIC WELD FOR GROUNDING ELECTRODE CABLE CONNECTION.
- 262632 PROVIDE 2#10, #10G. (POWER), 1"C. ELECTRICAL CONTRACTOR TO FIELD VERIFY AVAILABLE CIRCUIT IN EXISTING PANELBOARD.
- 262633 PROVIDE 1"C. ELECTRICAL CONTRACTOR TO FIELD VERIFY KEYPAD MANUFACTURER REQUIREMENTS AND LOCATION OF MDF/IDF CONNECTION POINT WITH OWNER'S IT.



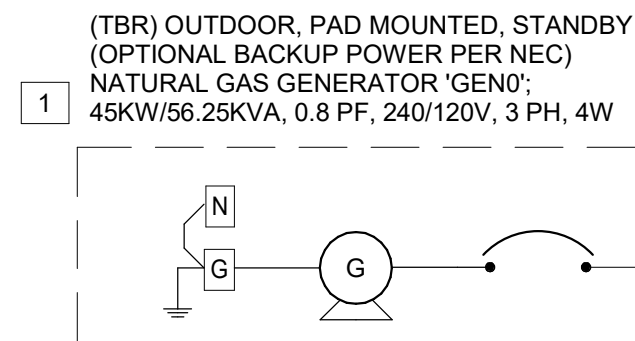
DATE	REVISION	NO.

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DESIGNED: J. BUANI	APPRVD: J. HAINES
DATE: 06-04-2024	PROJECT NUMBER
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MICHIGAN	CITY OF LIVONIA	ELECTRICAL PLANS (FIRE STATION #6) - INSTALLATION
LIVONIA	GENERATOR REPLACEMENTS	

DRAWING NUMBER	III-E1.1	ELECTRICAL
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1

SCALE: NTS

GENERAL NOTES

- A. SHADED LINES INDICATE EXISTING ELECTRICAL TO REMAIN UON.
- B. HAYEN AND DASHED LINES INDICATE EXISTING ELECTRICAL TO BE REMOVED UON.
- C. HAYEN LINES INDICATE NEW ELECTRICAL TO BE INSTALLED UON.
- D. MINIMIZE OUTAGES TO EXISTING POWER DISTRIBUTION SYSTEM. PROVIDE OWNER A MINIMUM OF TEN (10) WORKING DAYS OF ADVANCED NOTICE OF PLANNED OUTAGES. PROVIDE TEMPORARY POWER AS NECESSARY DURING PLANNED OUTAGES.
- E. CONTRACTOR SHALL FIELD DETERMINE SEQUENCE OF CONSTRUCTION TO MINIMIZE OUTAGES TO EXISTING POWER DISTRIBUTION SYSTEM. PROVIDE TEMPORARY POWER AS NECESSARY DURING PLANNED OUTAGES. SUBMIT SEQUENCE OF CONSTRUCTION, TO OWNER'S CONSTRUCTION REPRESENTATIVE, PRIOR TO CONSTRUCTION, FOR REVIEW/APPROVAL.

CODED NOTES: ONE-LINE

1. (E) GENERATOR 'GEN0' TO BE REMOVED. REMOVE ASSOCIATED ELECTRICAL (I.E. CABLE, CONDUIT, SUPPORTS, BOXES, CONCRETE EQUIPMENT PAD, ETC.) COMPLETE UO. UNDERGROUND CONDUIT SEGMENT(S) MAY BE ABANDONED IN PLACE (FOR SEGMENTS A MINIMUM 12' BFG). CAP ENDS OF ABANDONED CONDUIT(S) AND LABEL AS "ABANDONED". NEW GENERATOR 'GEN1' TO BE INSTALLED OUTDOORS IN AN ADJACENT LOCATION UO. REFER TO DRAWING III.E.2.
2. REMOVE (E) FEEDER CABLEING. EXISTING CONDUIT(S) MAY REMAIN FOR RE-USE (IF EXISTING CONDITION OF CONDUIT(S) IS SUITABLE FOR RE-USE; FIELD DETERMINE EXISTING CONDITION PRIOR TO CONSTRUCTION; NOTIFY EOR WHERE CONDUIT(S) ARE NOT OTHERWISE SUITABLE FOR RE-USE). NEW FEEDER CABLEING TO BE INSTALLED IN CONDUIT(S); REFER TO DRAWING III.E.2. CLEAN, DEGRADE, AND DE-BURR RACEWAY(S) PRIOR TO RE-USE.
3. REMOVE (E) FEEDER CABLEING. EXISTING CONDUIT(S) TO REMAIN FOR RE-USE. NEW FEEDER CABLEING TO BE INSTALLED IN CONDUIT(S); REFER TO DRAWING III.E.2. CLEAN, DEGRADE, AND DE-BURR RACEWAY(S) PRIOR TO RE-USE.
4. EXISTING PANELBOARD TO BE REMOVED. REMOVE FEEDER CABLEING COMPLETE BACK TO (E) SWITCHBOARD 'MSB'. EXISTING CONDUIT(S) TO REMAIN FOR RE-USE FOR NEW FEEDER CABLEING TO BE INSTALLED IN CONDUIT(S); REFER TO DRAWING III.E.2. CLEAN, DEGRADE, AND DE-BURR RACEWAY(S) PRIOR TO RE-USE.
5. (E) AUTOMATIC TRANSFER SWITCH 'ATS0' TO BE REMOVED COMPLETE. REMOVE ASSOCIATED ELECTRICAL (I.E. CABLE, CONDUIT, SUPPORTS, BOXES, ETC.) COMPLETE BACK TO POWER/SIGNAL SOURCE.
6. (E) SWITCHBOARD 'MSWB00' TO BE REMOVED. REMOVE ASSOCIATED ELECTRICAL (I.E. CABLE, SUPPORTS, BOXES, ETC.) COMPLETE BACK TO POWER SOURCE UO. EXISTING CONDUIT(S) TO REMAIN FOR RE-USE FOR NEW FEEDER CABLEING TO BE INSTALLED IN CONDUIT(S); REFER TO DRAWING III.E.2. CLEAN, DEGRADE, AND DE-BURR RACEWAY(S) PRIOR TO RE-USE. NEW SWITCHBOARD 'SWB00' TO BE INSTALLED IN SAME LOCATION AS 'SWB00'; REFER TO DRAWING III.E.2.
7. REMOVE (E) FEEDER CABLEING. EXISTING CONDUIT(S) TO REMAIN FOR RE-USE (IF EXISTING CONDITION OF CONDUIT(S) IS SUITABLE FOR RE-USE; FIELD DETERMINE EXISTING CONDITION PRIOR TO CONSTRUCTION; NOTIFY EOR WHERE CONDUIT(S) ARE NOT OTHERWISE SUITABLE FOR RE-USE). NEW FEEDER CABLEING TO BE INSTALLED IN CONDUIT(S); REFER TO DRAWING III.E.2. CLEAN, DEGRADE, AND DE-BURR RACEWAY(S) PRIOR TO RE-USE. (E) UNDERGROUND CONDUIT SEGMENT(S), NOT OTHERWISE SUITABLE FOR RE-USE, MAY BE ABANDONED IN PLACE (FOR SEGMENTS A MINIMUM 12' BFG). CAP ENDS OF ABANDONED CONDUIT(S) AND LABEL AS "ABANDONED".

DRAWINGS ARE DIAGRAMMATIC. CONTRACTOR SHALL VISIT SITE, PRIOR TO BIDDING, TO FIELD DETERMINE/VERIFY EXISTING CONDITIONS (INCLUDING ALL ACCESSIBLE SPACES, AREAS, SPACES, EQUIPMENT, BOXES, ETC.). CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL WORK NECESSARY, NOT OTHERWISE INDICATED, AT NO ADDITIONAL COST TO OWNER. NOTIFY EOR, PRIOR TO BIDDING, WHERE EXISTING CONDITIONS REQUIRE ELECTRICAL WORK NOT OTHERWISE INDICATED.

06/04/2024



DATE	REVISION	NO.	CHKD.	J.H.	DRAWN:	J.B.
					DESIGNED:	J. BLIANI
					APPR'D:	J. HAINES
					DATE:	06-04-2024
					PROJECT NUMBER	
					2142-7258-09	

MICHIGAN

CITY OF LIVONIA GENERATOR REPLACEMENTS

ONE-LINE DIAGRAM (FIRE STATION #6)

LIVONIA

DRAWING NUMBER

III-E2.1

ELECTRICAL

The diagram illustrates the relationship between a Wye (Y) and a Delta (Δ) three-phase system. The left side shows a Wye system with a delta-connected load. The right side shows a Delta system with a wye-connected load. Both diagrams indicate line-to-line voltage (240V) and line-to-neutral voltage (120V).

Wye System (Left):

- Phase "C" High Leg:** The top line is labeled "Wild Leg" and "Wild Leg Must be Orange Color".
- Phase "B":** The middle line.
- Phase "A":** The bottom line.
- Neutral (N):** The center point of the wye, labeled "N Must be White or Gray".
- Line-to-Line Voltage:** 240V between any two phases.
- Line-to-Neutral Voltage:** 120V from any phase to the neutral.

Delta System (Right):

- Phase "C" High Leg:** The top line, labeled "High Leg".
- Phase "B":** The middle line.
- Phase "A":** The bottom line.
- Neutral:** The center point of the delta.
- Line-to-Line Voltage:** 240V between any two phases.
- Line-to-Neutral Voltage:** 120V from any phase to the neutral.

Notes:

- "High Leg Delta in Orange Color is now phase "C", previously Phase "B" - prior NEC-2008"

2 CONFIGURATION DETAIL
SCALE: N.T.S.



DRAWINGS ARE DIAGRAMMATIC. CONTRACTOR SHALL VISIT SITE, PRIOR TO BIDDING, TO FIELD DETERMINE/VERIFY EXISTING CONDITIONS (INCLUDING ALL ACCESSIBLE SPACES, AREAS, SPACES, EQUIPMENT, BOXES, ETC.). CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL WORK NECESSARY, NOT OTHERWISE INDICATED, AT NO ADDITIONAL COST TO OWNER. NOTIFY EOR, PRIOR TO BIDDING, WHERE EXISTING CONDITIONS REQUIRE ELECTRICAL WORK NOT OTHERWISE INDICATED.

- A. SHADED LINES INDICATE EXISTING ELECTRICAL TO REMAIN UON.
- B. HEAVY AND DASHED LINES INDICATE EXISTING ELECTRICAL TO BE REMOVED UON.
- C. HEAVY LINES INDICATE NEW ELECTRICAL TO BE INSTALLED UON.
- D. MINIMIZE OUTAGES TO EXISTING POWER DISTRIBUTION SYSTEM. PROVIDE OWNER A MINIMUM OF TEN (10) WORKING DAYS OF ADVANCED NOTICE OF PLANNED OUTAGES. PROVIDE TEMPORARY POWER AS NECESSARY DURING PLANNED OUTAGES.
- E. CONTRACTOR SHALL FIELD DETERMINE SEQUENCE OF CONSTRUCTION TO MINIMIZE OUTAGES TO EXISTING POWER DISTRIBUTION SYSTEM. PROVIDE TEMPORARY POWER AS NECESSARY DURING PLANNED OUTAGES. SUBMIT SEQUENCE OF CONSTRUCTION TO OWNER'S CONSTRUCTION REPRESENTATIVE, PRIOR TO CONSTRUCTION, FOR REVIEW/APPROVAL.

1. PROVIDE OUTDOOR, PADMOUNTED, STANDBY RATED, NATURAL GAS GENERATOR 'GEN1' [FOR BACKUP "OPTIONAL" POWER PER NEC]. MFR/MODEL (BASIS OF DESIGN): NEW GENERAC SG400 120/240V, 3Ø 400KW IN NEMA-3R, LEVEL 3 SOUND ATTENUATED ENCLOSURE WITH CORROSION EQUAL. PROVIDER WITH EXTENDED TWO (2) YEAR WARRANTY. _LOCATE (IN 'GEN1' ADJACENT TO REMOVED GENERATOR 'GEN0'. PROVIDE 1200A, 100% RATED GROUND FAULT INDICATION OUTPUT BREAKER. GENERATOR AND ACCESSORIES SHALL BE PROVIDED BY CONTRACTOR. COORDINATE EXACT LOCATION WITH OWNER. COORDINATE NATURAL GAS CONNECTION WITH LOCAL UTILITY COMPANY. VERIFY PAD REQUIREMENTS PRIOR TO INSTALL.
2. PROVIDE 100% RATED MOLDED CASE CIRCUIT BREAKER WITH ELECTRONIC TRIP UNIT (I.E. FOR ADJUSTABLE LSI SETTINGS).
3. LOAD CENTER PANELBOARD 'LP-GEN1' SHALL BE PROVIDED INTEGRAL WITH GENERATOR 'GEN1'. GENERATOR MANUFACTURER SHALL FACTORY PRE-WIRE GENERATOR APPURTENANCES TO THE LOAD CENTER PANELBOARD INCLUDING, BUT NOT LIMITED TO, BATTERY CHARGER, BATTERY TRAY HEATER, ALTERNATOR WINDINGS AIR-CONDITIONING SYSTEM, JACKET WATER HEATER*/STAT, CONVENIENCE RECEPTACLE(S), A/C LIGHT(S), ALTERNATOR WINDINGS ANT-CONDENSATE HEATER*/STAT, AND BLOCK HEATER.
4. PROVIDE COUNTERPOISE GROUNDING ELECTRODE SYSTEM WITH TWO (2) 5/8" DIA X 10'-0" COPPER CLAD GROUNDING ELECTRODE RODS. BOND TO BUILDING GROUNDING ELECTRODE SYSTEM. BOND NEUTRAL AND GROUND IN GENERATOR HOUSING. GENERATOR IS A SEPARATELY DERIVED SOURCE.

[illegible]

DRAWN: J.B.	CHK'D: J.H.
DESIGNED: J. BIJANI	
APPRV'D: J. HAINES	
DATE: 06-04-2024	
PROJECT NUMBER	
2142-7258-09	

MICHIGAN	N #6)
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CITY OF LIVONIA
GENERATOR REPLACEMENTS
AGRAM, WIRING DETAIL (FIRE S

LIVONIA	NO
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III-E2.2

ELECTRICAL

Branch Panel: (N) PANELBOARD 'LPA'

Location: HOSE ROOM
Supply From: SWBD1
Mounting: Surface
Enclosure: Type 1

Volts: 120/240 Single
Phases: 1
Wires: 3

A.I.C. Rating: 42 KAIC
Mains Type: MLO
Mains Rating: 225 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	Existing Load	20 A	1	750 VA	750 VA	750 VA	750 VA	1	20 A	Existing Load	2
3	Existing Load	20 A	1					1	20 A	Existing Load	4
5	Existing Load	20 A	1	750 VA	750 VA			1	20 A	Existing Load	6
7	Existing Load	20 A	1			750 VA	750 VA	1	20 A	Existing Load	8
9	Existing Load	20 A	1	750 VA	750 VA			1	20 A	Existing Load	10
11	Existing Load	20 A	1			750 VA	750 VA	1	20 A	Existing Load	12
13	Existing Load	20 A	1	750 VA	750 VA			1	20 A	Existing Load	14
15	Existing Load	20 A	1			750 VA	750 VA	1	20 A	Existing Load	16
17	Existing Load	20 A	1	750 VA	750 VA			1	20 A	Existing Load	18
19	Existing Load	20 A	1			750 VA	750 VA	1	20 A	Existing Load	20
21	Existing Load	20 A	1	750 VA	750 VA			1	20 A	Existing Load	22
23	Existing Load	20 A	1			750 VA	750 VA	1	20 A	Existing Load	24
25	Existing Load	20 A	1	750 VA	750 VA			1	20 A	Existing Load	26
27	Existing Load	20 A	1			750 VA	750 VA	1	20 A	Existing Load	28
29	Existing Load	20 A	1	750 VA	750 VA			1	20 A	Existing Load	30
31	Existing Load	20 A	1			750 VA	750 VA	1	20 A	Existing Load	32
33	Existing Load	30 A	2	1250 VA	1250 VA			2	30 A	Existing Load	34
35	--	--	--			1250 VA	1250 VA	--	--	--	36
37	Existing Load	30 A	2	1250 VA	1750 VA			2	40 A	Existing Load	38
39	--	--	--			1250 VA	1750 VA	--	--	--	40
41	Existing Load	20 A	1	750 VA	0 VA			1	20 A	SPARE	42
		Total Load:		18250 VA		17500 VA					
		Total Amps:		152 A		146 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Existing Load	35750 VA	125.00%	44688 VA	
				Total Conn. Load: 35750 VA
				Total Est. Demand: 44688 VA
				Total Conn. Current: 149 A
				Total Est. Demand Current: 186 A

Notes:

Branch Panel: (N) PANELBOARD 'LPB'

Location: BASEMENT ELECTRICAL...
Supply From: SWBD1
Mounting: Surface
Enclosure: Type 1

Volts: 120/240 Single
Phases: 1
Wires: 3

A.I.C. Rating: 42 KAIC
Mains Type: MLO
Mains Rating: 225 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	EXISTING LOAD	20 A	1	750 VA	750 VA			1	20 A	EXISTING LOAD	2
3	EXISTING LOAD	20 A	1			750 VA	750 VA	1	20 A	EXISTING LOAD	4
5	EXISTING LOAD	20 A	1	750 VA	750 VA			1	20 A	EXISTING LOAD	6
7	EXISTING LOAD	20 A	1			750 VA	750 VA	1	20 A	EXISTING LOAD	8
9	EXISTING LOAD	20 A	1	750 VA	750 VA			1	20 A	EXISTING LOAD	10
11	EXISTING LOAD	20 A	1			750 VA	750 VA	1	20 A	EXISTING LOAD	12
13	EXISTING LOAD	20 A	1	750 VA	750 VA			1	20 A	EXISTING LOAD	14
15	EXISTING LOAD	20 A	1			750 VA	750 VA	1	20 A	EXISTING LOAD	16
17	EXISTING LOAD	20 A	1	750 VA	750 VA			1	20 A	EXISTING LOAD	18
19	EXITING LOAD	30 A	2			750 VA	750 VA	2	30 A	EXISTING LOAD	20
21	--	--	--	750 VA	750 VA			--	--	--	22
23	EXISTING LOAD	40 A	2			750 VA	0 VA	1	20 A	SPARE	24
25	--	--	--	750 VA	0 VA			1	20 A	SPARE	26
27	SPARE	20 A	1			0 VA	0 VA	1	20 A	SPARE	28
29	SPARE	20 A	1	0 VA	0 VA			1	20 A	SPARE	30
31	SPARE	20 A	1			0 VA	0 VA	1	20 A	SPARE	32
33	SPARE	20 A	1	0 VA	0 VA			1	20 A	SPARE	34
35	SPARE	20 A	1			0 VA	0 VA	1	20 A	SPARE	36
37	(N) LP-GEN1" (IN GENSET 'GEN1' ENCLOSURE)	60 A	2	1830 VA	0 VA			1	20 A	SPARE	38
39	--	--	--			0 VA	0 VA	1	20 A	SPARE	40
41	SPARE	20 A	1	0 VA	0 VA			1	20 A	SPARE	42
		Total Load:		11580 VA		8250 VA					
		Total Amps:		97 A		69 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Existing Load	18000 VA	125.00%	22500 VA	
				Total Conn. Load: 19830 VA
				Total Est. Demand: 24330 VA
				Total Conn. Current: 83 A
				Total Est. Demand Current: 101 A

Notes:

Branch Panel: (N) PANELBOARD 'LPC'

Location: BAY 1
Supply From: SWBD1
Mounting: Surface
Enclosure: Type 1

Volts: 120/240 Single
Phases: 1
Wires: 3

A.I.C. Rating: 42 KAIC
Mains Type: MLO
Mains Rating: 225 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	Existing Load	20 A	1	750 VA	750 VA			1	20 A	Existing Load	2
3	Existing Load	20 A	1			750 VA	750 VA	1	20 A	Existing Load	4
5	Existing Load	20 A	1	750 VA	750 VA			1	20 A	Existing Load	6
7	Existing Load	20 A	1			750 VA	750 VA	1	20 A	Existing Load	8
9	Existing Load	20 A	1	750 VA	750 VA			1	20 A	Existing Load	10
11	Existing Load	20 A	1			750 VA	750 VA	1	20 A	Existing Load	12
13	Existing Load	20 A	1	750 VA	750 VA			1	20 A	Existing Load	14
15	Existing Load	20 A	1			750 VA	750 VA	1	20 A	Existing Load	16
17	Existing Load	20 A	1	750 VA	750 VA			1	20 A	Existing Load	18
19	Existing Load	20 A	1			750 VA	750 VA	1	20 A	Existing Load	20
21	Existing Load	20 A	1	750 VA	750 VA			1	20 A	Existing Load	22
23	Existing Load	20 A	1			750 VA	750 VA	1	20 A	Existing Load	24
25	SPARE	20 A	1	0 VA	2250 VA			2	20 A	Existing Load	26
27	SPARE	20 A	1			0 VA	2250 VA	--	--	--	28
29	SPARE	20 A	1	0 VA	0 VA			1	20 A	SPARE	30
31	SPARE	20 A	1			0 VA	0 VA	1	20 A	SPARE	32
33	SPARE	20 A	1	0 VA	0 VA			1	20 A	SPARE	34
35	SPARE	20 A	1			0 VA	0 VA	1	20 A	SPARE	36
37	SPARE	20 A	1	0 VA	0 VA			1	20 A	SPARE	38
39	SPARE	20 A	1			0 VA	0 VA	1	20 A	SPARE	40
41	SPARE	20 A	1	0 VA	0 VA			1	20 A	SPARE	42
		Total Load:		11250 VA		11250 VA					
		Total Amps:		94 A		94 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Existing Load	22500 VA	125.00%	28125 VA	
				Total Conn. Load: 22500 VA
				Total Est. Demand: 28125 VA
				Total Conn. Current: 94 A
				Total Est. Demand Current: 117 A

Notes:



DATE									
REVISION									
NO.									

DRAWN: J.B.	CHKD: J.H.	2142-7258-09
DESIGNED: J. BLUANI		
APPRVD: J. HAINES		
DATE: 06-04-2024	PROJECT NUMBER	

MICHIGAN	CITY OF LIVONIA	GENERATOR REPLACEMENTS	PANELBOARD SCHEDULES - FIRE STATION #6
LIVONIA			

DRAWING NUMBER	III-E2.3	ELECTRICAL
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Branch Panel: (N) PANELBOARD 'PP1'

Location: HOSE ROOM

Supply From: SWBD1

Mounting: Surface

Enclosure: Type 1

Volts: 120/240 THREE

Phases: 3

Wires: 4

A.I.C. Rating: 42 KAIC

Mains Type: MLO

Mains Rating: 225 A

Notes:

PANELBOARD SHALL BE UL LABELED AS SUITABLE FOR CONNECTING TO A 240/120V, 3 PH, 4W, HIGH LEG DELTA SYSTEM. REFER TO WIRING CONFIGURATION DETAIL #2 ON DRAWING III-E2.2.

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	Existing Load	30 A	3	1000...	1000...		3	30 A	Existing Load	2
3	--	--	--		1000...	1000...	--	--	--	4
5	--	--	--			1000...	--	--	--	6
7	Existing Load	60 A	3	1666...	2000...		3	60 A	Existing Load	8
9	--	--	--		1666...	2000...	--	--	--	10
11	--	--	--			1666...	--	--	--	12
13	Existing Load	60 A	3	1000...	1333...		3	60 A	Existing Load	14
15	--	--	--		1000...	1333...	--	--	--	16
17	--	--	--			1000...	--	--	--	18
19	SPARE	30 A	3	0 VA	0 VA		3	30 A	SPARE	20
21	--	--	--		0 VA	0 VA	--	--	--	22
23	--	--	--			0 VA	--	--	--	24
25	SPARE	60 A	3	0 VA	0 VA		3	30 A	SPARE	26
27	--	--	--		0 VA	0 VA	--	--	--	28
29	--	--	--			0 VA	--	--	--	30
Total Load:				23000 VA	23000 VA	23000 VA				
Total Amps:				192 A	192 A	192 A				

Legend:

MATCH NEW BREAKER SIZE TO EXISTING FUSE SIZES FROM REMOVED PANEL.

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Existing Load	69000 VA	125.00%	86250 VA	
				Total Conn. Load: 69000 VA
				Total Est. Demand: 86250 VA
				Total Conn. Current: 166 A
				Total Est. Demand Current: 207 A

Notes:

Branch Panel: (N) PANELBOARD 'PP2'

Location: BAY 1

Supply From: SWBD1

Mounting: Surface

Enclosure: Type 1

Volts: 120/240 THREE

Phases: 3

Wires: 4

A.I.C. Rating: 42 KAIC

Mains Type: MLO

Mains Rating: 225 A

Notes:

PANELBOARD SHALL BE UL LABELED AS SUITABLE FOR CONNECTING TO A 240/120V, 3 PH, 4W, HIGH LEG DELTA SYSTEM. REFER TO WIRING CONFIGURATION DETAIL #2 ON DRAWING III-E2.2.

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	Existing Load	30 A	3	1000...	1000...		3	30 A	Existing Load	2
3	--	--	--		1000...	1000...	--	--	--	4
5	--	--	--			1000...	1000...	--	--	6
7	Existing Load	30 A	3	1000...	1667...		3	60 A	Existing Load	8
9	--	--	--		1000...	1667...	--	--	--	10
11	--	--	--			1000...	1667...	--	--	12
13	Existing Load	60 A	3	1667...	1667...		3	60 A	Existing Load	14
15	--	--	--		1667...	1667...	--	--	--	16
17	--	--	--			1667...	1667...	--	--	18
19	SPARE	20 A	3	0 VA	0 VA		3	20 A	SPARE	20
21	--	--	--		0 VA	0 VA	--	--	--	22
23	--	--	--			0 VA	0 VA	--	--	24
25	SPARE	60 A	3	0 VA	0 VA		3	60 A	SPARE	26
27	--	--	--		0 VA	0 VA	--	--	--	28
29	--	--	--			0 VA	0 VA	--	--	30
Total Load:				8000 VA	8000 VA	8000 VA				
Total Amps:				67 A	67 A	67 A				

Legend:

MATCH NEW BREAKER SIZE TO EXISTING FUSE SIZES REMOVED FROM PANEL.

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Existing Load	24000 VA	125.00%	30000 VA	
				Total Conn. Load: 24000 VA
				Total Est. Demand: 30000 VA
				Total Conn. Current: 58 A
				Total Est. Demand Current: 72 A

Notes:

Branch Panel: (N) PANELBOARD 'LPX'

Location: HALL

Supply From: SWBD1

Mounting: RECESSED

Enclosure: TYPE 1

Volts: 120/240 Single

Phases: 1

Wires: 3

A.I.C. Rating: 42 KAIC

Mains Type: MLO

Mains Rating: 225 A

Notes:

CKT	Circuit Description	Trip	Poles	A	B	Poles	Trip	Circuit Description	CKT	
1	Existing Load	20 A	1	750 VA	750 VA	1	20 A	Existing Load	2	
3	Existing Load	20 A	1		750 VA	750 VA	1	20 A	Existing Load	4
5	Existing Load	20 A	1	750 VA	750 VA		1	20 A	Existing Load	6
7	Existing Load	20 A	1		750 VA	750 VA	1	20 A	Existing Load	8
9	Existing Load	20 A	1	750 VA	750 VA		1	20 A	Existing Load	10
11	Existing Load	20 A	1		750 VA	750 VA	1	20 A	Existing Load	12
13	Existing Load	20 A	1	750 VA	750 VA		1	20 A	Existing Load	14
15	Existing Load	20 A	1		750 VA	750 VA	1	20 A	Existing Load	16
17	Existing Load	20 A	1	750 VA	750 VA		1	20 A	Existing Load	18
19	Existing Load	20 A	1		750 VA	750 VA	1	20 A	Existing Load	20
21	Existing Load	20 A	1	750 VA	750 VA		1	20 A	Existing Load	22
23	Existing Load	20 A	1		750 VA	750 VA	1	20 A	Existing Load	24
25	Existing Load	20 A	1	750 VA	750 VA		1	20 A	Existing Load	26
27	Existing Load	20 A	1		750 VA	750 VA	1	20 A	Existing Load	28
29	Existing Load	20 A	1	750 VA	750 VA		1	20 A	Existing Load	30
Total Load:				12000 VA		10500 VA				
Total Amps:				100 A		88 A				

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Existing Load	22500 VA	125.00%	28125 VA	
				Total Conn. Load: 22500 VA
				Total Est. Demand: 28125 VA
				Total Conn. Current: 94 A
				Total Est. Demand Current: 117 A

Notes:



NO.	REVISION	DATE

DRAWN: J.B.	CHKD: J.H.
DESIGNED: J. BUANI	
APPRVD: J. HAINES	
DATE: 06-04-2024	
PROJECT NUMBER	2142-7258-09

LIVONIA	MICHIGAN
CITY OF LIVONIA	GENERATOR REPLACEMENTS
PANELBOARD SCHEDULES - FIRE STATION #6	

DRAWING NUMBER	III-E2.4	ELECTRICAL
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SPECIFICATIONS AND CONTRACT DOCUMENTS

FOR

2142-7258-09 – Livonia Generator

May 22, 2024



**CITY OF LIVONIA
DEPARTMENT OF PUBLIC WORKS**

**12973 Farmington Road
Livonia, MI 48150
(734) 466-2655**



CITY OF LIVONIA, MICHIGAN

Fire Stations #3, #6, & Dept. Of Public Works - **Generator Replacement**

OWNER REVIEW

PROJECT MANUAL

ISSUED: July 11, 2024

FOR PERMIT & BID

DIVISIONS 00 – 32

Prepared For:
City of Livonia
Department of Public Works Engineering
12973 Farmington Rd
Livonia, MI 48154

Project Site:
32777 Five Mile Rd.,
Livonia, MI 48154

Prepared by:
DLZ MICHIGAN, INC.
Project No: 2142-7258-09

STAMPS / SEALS



607 Shelby St., Ste. 650 Detroit, MI 48226 | OFFICE 313.961.4040 | ONLINE WWW.DLZ.COM

Akron Bellefontaine Bridgeville Burns Harbor Chicago Cincinnati Cleveland Columbus Detroit Fort Wayne Grand Rapids Indianapolis Joliet
Kalamazoo Lansing Lexington Logan Madison Maumee Melvindale Merrillville Munster Muskegon Port Huron Saint Joseph San José
South Bend Waterford

2142-7258-09 – LIVONIA GENERATOR REPLACEMENTS

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The Contract Documents consist of two parts as follows:

PART II Drawings

Plan Sheets

Refer to Drawing Index on Drawings Title Sheet (Sheet Count: 22)

SECTION 01 10 00 – SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
1. Project information.
 2. Work covered by Contract Documents.
 3. Access to site.
 4. Coordination with occupants.
 5. Work restrictions.
 6. Specification and drawing conventions.

1.3 PROJECT INFORMATION

- A. Project Identification: City of Livonia
Fire Stations #3, #6, and Department of Public Works
Generator Replacements
- B. Location: Fire Station #3
35000 W. Seven Mile Rd.
Livonia, Michigan 48152
- Fire Station #6
37876 Plymouth Rd.
Livonia, Michigan 48150
- DPW Department
12973 Farmington Rd.
Livonia, Michigan 48150
- C. Owner: City of Livonia
33000 Civic Center Dr.
Livonia, Michigan

- D. Architect: DLZ Michigan, Inc.
607 Shelby St. Ste #650
Detroit, Michigan

1.4 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and consists of the following:

Work includes the demolition and replacement of generators at Fire Stations #3 and #6 and the installation of a new generator at the Public Works Department. The work includes but is not limited to the following:

- a. Remove existing generator and install new generator, concrete pad, and masonry screen wall with security gate at the northeastern corner of Fire Station #3.
 - b. Remove existing generator, concrete pad, and wood screen fence and install new generator, concrete pad, and masonry screen wall with security gate in the same location at Fire Station #6.
 - c. Install new generator, concrete pad, and bollards at the Public Works Department.
2. Electrical Systems including but not limited to the following:
- a. Power
 - b. Other electrical systems and components indicated on the Drawings and Project Manual.

- B. Type of Contract:

1. The Work for will be constructed under a single prime contract with lump-sum amount.

1.5 ACCESS TO SITE

- A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.

- B. Use of Site: Limit use of Project site to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Limits: Confine construction operations to the areas of the building to areas of work activities.
2. Driveways, Walkways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.

- a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- 3. Material Delivery and Disposal of Removed items: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
 - c. Schedule deliveries and disposal between 7:00 am and 12:00 pm, Monday through Friday.
 - 1) Protect all existing finishes and construction during delivery and disposal activities.
 - d. Contractor to provide dumpster for construction debris. Use of Owner's dumpster is prohibited.
 - e. Protect public access to maintain a safe condition.
- C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

1.6 COORDINATION WITH OCCUPANTS

- A. Cooperate with Owner during construction operations to minimize conflicts and facilitate any Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain exits as needed for life safety.
 - 1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.
 - 2. Notify Owner not less than 72 hours in advance of activities that will affect Owner's operations.
 - 3. SHUT DOWN OF EXISTING SYSTEM AND INSTALLATION OF NEW SYSTEM SHALL BE PERFORMED IN AN LOGICAL AND ORDER MANNER TO MINIMIZE DISRUPTION.

1.7 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work in the existing building to normal business working hours of 7:00 a.m. to 5:00 p.m., Monday through Friday, unless otherwise indicated.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
 1. Notify Architect and Owner not less than seven days in advance of proposed utility interruptions.
 2. Obtain Owner's written permission before proceeding with utility interruptions.
- D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.
 1. Notify Architect and Owner not less than seven days in advance of proposed disruptive operations.
 2. Obtain Owner's written permission before proceeding with disruptive operations.
 3. Activities on adjacent to public areas shall be coordinate to minimize disruption of activities below. Coordinate with Owner.
- E. Nonsmoking Building: Smoking is not permitted within the building or within 8 feet of entrances, operable windows, or outdoor-air intakes.
- F. Controlled Substances: Use of alcohol and other controlled substances on Project site is not permitted.
- G. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.

1.8 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard.
 3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 10 00

DOCUMENT 00 43 21 - ALLOWANCE FORM

1.1 BID INFORMATION

- A. Bidder:_____.
- B. Project Name: Fire Stations #3, #6, and Dept. of Public Works Generator Replacements
- C. Project Location: Fire Station #3

35000 W. Seven Mile Rd.

Livonia, Michigan 48152

Fire Station #6

37876 Plymouth Rd.

Livonia, Michigan 48150

DPW Department

12973 Farmington Rd.

Livonia, Michigan 48150

- D. Owner: City of Livonia.
- E. Architect: DLZ Michigan
- F. Architect Project Number: 2142-7258-09

1.2 BID FORM SUPPLEMENT

- A. This form is required to be attached to the Bid Form.
- B. The undersigned Bidder certifies that Base Bid submission to which this Bid Supplement is attached includes those allowances described in the Contract Documents and scheduled in Section 01 21 00 "Allowances."

1.3 SUBMISSION OF BID SUPPLEMENT

- A. Respectfully submitted this ____ day of _____, 2024 .
- B. Submitted By: _____(Insert name of bidding firm or corporation).
- C. Authorized Signature: _____(Handwritten signature).
- D. Signed By: _____(Type or print name).
- E. Title: _____(Owner/Partner/President/Vice President).

END OF DOCUMENT 00 43 21

SECTION 01 21 16 – ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements governing allowances.
 - 1. Selected materials and equipment are specified in the Contract Documents by allowance. This allowance includes installation. The allowance has been established in lieu of additional requirements and to repair of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by Change Order.
 - 2. The Architect shall provide the Contractor with a written description prior to the use of the allowance.
 - 3. The Contractor shall not use the allowance without written instruction by the Architect and approved by the Owner.

1.3 ALLOWANCE ADJUSTMENT AMOUNTS

- A. Upon acceptance of the Proposal Request, an Allowance Adjustment will be issued for execution by the Owner and Contractor.
- B. Allowance Adjustments shall increase or decrease general construction contingency allowance amounts.
- C. Allowance Adjustments shall not change the Contract amount.
- D. Contractor shall exclude bonds, overhead and profit for work performed by Contractor's own forces. Work performed by subcontractors may increase material and labor amount by five (5%) percent.
- E. Contractor shall include each Allowance on the Schedule of Values.
 - 1. Upon approval of Allowance Adjustment(s), Contractor to update Schedule of Values and Application for Payment to record each Allowance Adjustment as a separate line item.

PART 2 - PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION 01 21 16

SECTION 01 26 00 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.
 - 1. Request for pricing.
 - 2. Documentation of change in Contract Sum and Contract Time.
 - 3. Change procedures.
 - 4. Stipulated Sum change order.
 - 5. Time and material change order.
 - 6. Execution of change orders.
 - 7. Correlation of Contractor submittals.
- B. Related Requirements:
 - 1. General Conditions: Governing requirements for changes in the work, in contract sum, and contract time.
 - 2. Section 00 72 13 - General Conditions-Stipulated Sum (Single-Prime Contract).
 - 3. Section 01 29 00 – Payment Procedures.
 - 4. Section 01 60 00 – Product Requirements.
 - 5. Section 01 77 00 – Closeout Procedures.

1.3 DOCUMENTATION OF CHANGE IN CONTRACT SUM AND CONTRACT TIME

- A. Maintain detailed records of work done on a time and material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs of changes in the work.
- B. Document each lump sum quotation for a change in cost or time with sufficient data to allow evaluation of the quotation. Include material and labor unit cost and quantities.
- C. Provide additional data to support computations:
 - 1. Quantities of products, labor, and equipment.
 - 2. Overhead and profit.
 - 3. Justification for any change in contract time.

4. Credit for deletions from contract, similarly documented.

D. Support each claim for additional costs prior to work being done. Provide origin and date of each claim.

1.4 CHANGE PROCEDURES

A. The Architect will advise of minor changes or clarifications in the work that may or may not involve an adjustment to contract sum or contract time as authorized by AIA A201, 2017 Edition, by issuing Architect's Supplemental Instructions on AIA Form G710. Contractor will prepare and submit an estimate within fourteen (14) days.

B. The Architect may issue a Proposal Request which includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in contract time for executing the change and the period of time during which the requested price will be considered valid. Contractor will prepare and submit an estimate within fourteen (14) days.

1.5 CHANGE DIRECTIVE

A. Construction Change Directive: When the Owner and the Contractor disagree on the terms of a Proposal Request, the Architect may issue a Construction Change Directive on AIA Form G714. The Construction Change Directive instructs the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. The Construction Change Directive contains a complete description of the change in the Work. It also designates the method to be followed to determine change in the Contract Sum or Contract Time.

2. Change Directives are used on emergency items.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.

1. After completion of the change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

C. Promptly execute the change in work.

1.6 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: The Architect will issue a detailed description of proposed changes in the Work that will require adjustment to the Contract Sum or Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

1. Proposal requests issued by the Architect are for information only. Do not consider them as an instruction either to stop work in progress or to execute the proposed change.
 2. Within fourteen (14) days of receipt of a proposal request, submit an estimate of cost necessary to execute the change to the Architect for the Owner's review.
 - a. Include a detailed list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include a statement indicating the effect the proposed change in the Work will have on the Contract Time.
 - d. Include breakdown of material and labor.
- B. Contractor-Initiated Proposals: When latent or unforeseen conditions require modifications to the Contract, the Contractor may propose changes by submitting a request for a change to the Architect.
1. Include a statement outlining the reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and Contract Time.
 2. Include a detailed list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 4. Include breakdown of material and labor.
- C. Proposal Request Form: Use AIA Document G709 for Change Order Proposal Requests.
- D. Back-up Documentation: Contractor shall submit all back-up documentation with each proposal. The Architect reserves the right to request additional back-up documentation as needed to evaluate the proposed costs. Refer to Exhibit 01 26 00 A1 and 01 26 00 A2.
- 1.7 STIPULATED SUM CHANGE ORDER (CO)
- A. A Change Order will be issued based upon the Contractor's estimated price quotation as recommended by the Architect and approved by the Owner.
- 1.8 TIME AND MATERIAL CHANGE ORDER (CO)
- A. Submit itemized account and supporting data after completion of change within (15) days after completion.

- B. The Architect will determine the change allowable in contract sum and contract time as provided in the contract documents.
- C. Maintain detailed records of work done on Time and Material basis. The Contractor's on-site representative must verify and sign the contractor's daily timesheets, not as approval for payment, but for record that work was completed per the change order.
- D. Provide full information required for evaluation of proposed changes and to substantiate costs for changes in the work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXECUTION OF CHANGE ORDERS

- A. Execution of Change Orders: Architect will prepare and issue Change Orders for signatures of parties. Owner, Architect, Contractor, shall sign all change orders.

3.2 CORRELATION OF CONTRACTOR SUBMITTALS

- A. Promptly revise Schedule of Values and Application for Payment forms to record each authorized change order as a separate line item and adjust the contract sum.
- B. Promptly revise progress schedules to reflect any change in contract time, revise sub-schedules to adjust time for other items of work affected by the change and resubmit.
- C. Promptly enters changes in on-site As-Built document set.

END OF SECTION 01 26 00

SECTION 01 26 13 – REQUESTS FOR INTERPRETATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements governing requests for interpretation.

1.3 DOCUMENTATION OF REQUESTS FOR INTERPRETATION

- A. Contractor shall provide written requests for interpretation utilizing the Request for Interpretation form, refer to Exhibit 01 26 13A.
- B. Provide full information required for Architect's review and evaluation of conditions.
- C. Provide additional supportive information to clearly identify conditions.

1.4 RESPONSE TO REQUESTS FOR INTERPRETATION

- A. The Architect will advise of minor changes or clarifications in the work that may or may not involve an adjustment to contract sum or contract time as authorized by AIA A201, 2017 Edition, by issuing Architect's Supplemental Instructions on AIA Form G710.
- B. The Architect may issue a Proposal Request which includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in contract time for executing the change and the period of time during which the requested price will be considered valid.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 26 13

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Exhibit 01 26 13A

TITLE: REQUEST FOR INTERPRETATION

DATE ISSUED: _____

RFI NO.: _____

DESIGN RELEASE: _____

PROJECT: _____

BID PACKAGE: _____

TO: _____

FROM: _____

ATTN: _____

Date Response Requested By: _____

Specification Section/Drawing Reference: _____

Subject: _____

Question: _____

Contractor's Suggested Solution: _____

Response: _____

Attachments: _____

Requested By: _____

Signed: _____

Date: _____

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SECTION 01 29 00 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Requirements:
 - 1. Section 01 33 00 "Submittal Procedures" for the Contractor's Construction Schedule and Submittal Schedule.
- C. Sequence of Approval:
 - 1. The Architect shall review, and, if acceptable, certify the application.
 - 2. The Owner will review, and, if acceptable, will approve the application.

1.3 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by the Architect, approved by the Owner.
 - 1. The initial Application for Payment, the Application for Payment at time of Substantial Completion, and the final Application for Payment involve additional requirements.
- B. Payment-Application Times: Payment applications shall be issued on a monthly basis. Specific dates to be determined by the Contractor. Draft payment applications to be reviewed with Owner and Architect at the first progress meeting of each month.
 - 1. Payment applications may include work completed up to the time of review of draft pay application.
- C. Payment-Application Forms: Use AIA Document G702-1992 and G703-1992 for Applications for Payment, refer to Exhibit 01 29 00-A. City of Livonia Contractor's Declaration for progress payments and Contractor's Affidavit for the final payment.

- D. Application Preparation: Complete every entry on the form. Include notarization and execution by a person authorized to sign legal documents on behalf of the Contractor. The Architect will return incomplete applications without action.
 - 1. Entries shall match data on the Schedule of Values and the Contractor's Construction Schedule. Use updated schedules if revisions were made.
 - 2. Include amounts of fully executed Change Orders issued prior to the last day of the construction period covered by the application.
- E. Transmittal: Submit 3 signed and notarized original copies of each Application for Payment to the Architect by a method ensuring receipt within 24 hours. One copy shall be complete, including waivers of lien and similar attachments, when required.
 - 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information related to the application, in a manner acceptable to the Architect.
- F. Waivers of Mechanics Lien: With each Application for Payment, submit waivers of mechanics liens from subcontractors, sub-subcontractors and suppliers for the construction period covered by the previous application.
 - 1. Submit partial waivers on each item for the amount requested, prior to deduction for retainage, on each item.
 - 2. When an application shows completion of an item, submit final or full waivers.
 - 3. The Owner reserves the right to designate which entities involved in the Work must submit waivers.
 - 4. Waiver Delays: Submit each Application for Payment with the Contractor's waiver of mechanics lien for the period of construction covered by the application.
 - a. Submit final Applications for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 - 5. Waiver Forms: Submit waivers of lien on forms, and executed in a manner, acceptable to the Owner. Refer to Exhibit 01 29 00B.
- G. Initial Application for Payment: Administrative actions and submittals, that must precede or coincide with submittal of the first Application for Payment, include the following:
 - 1. List of subcontractors.
 - 2. List of principal suppliers and fabricators.
 - 3. Contractor's Construction Schedule (preliminary if not final).
 - 4. Schedule of principal products.
 - 5. Submittal Schedule (preliminary if not final).
 - 6. List of Contractor's staff assignments.
 - 7. List of Contractor's principal consultants.
 - 8. Copies of building permits.

9. Copies of authorizations and licenses from governing authorities for performance of the Work.
 10. Initial progress report.
 11. Report of preconstruction meeting.
 12. Certificates of insurance and insurance policies.
 13. Performance and payment bonds.
 14. Data needed to acquire the Owner's insurance.
 15. Initial settlement survey and damage report, if required.
- H. Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment.
1. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
 2. Administrative actions and submittals that shall precede or coincide with this application include:
 - a. Occupancy permits and similar approvals.
 - b. Warranties (guarantees) and maintenance agreements.
 - c. Maintenance instructions.
 - d. Changeover information related to Owner's occupancy, use, operation, and maintenance.
 - e. Final cleaning.
 - f. Application for reduction of retainage and consent of surety.
 - g. Advice on shifting insurance coverages.
 - h. List of incomplete Work recognized as exceptions to Architect's Certificate of Substantial Completion.
- I. Final Payment Application: Administrative actions and submittals that must precede or coincide with submittal of the final Application for Payment include the following:
1. Completion of Project closeout requirements.
 2. Completion of items specified for completion after Substantial Completion.
 3. Ensure that unsettled claims will be settled.
 4. Ensure that incomplete Work is not accepted and will be completed without undue delay.
 5. Transmittal of required Project construction records to the Owner.
 6. Proof that taxes, fees, and similar obligations were paid.
 7. Removal of temporary facilities and services.
 8. Removal of surplus materials, rubbish, and similar elements.
- 1.4 SCHEDULE OF VALUES
- A. Coordination: Contractor shall coordinate preparation of its Schedule of Values for its part of the Work with preparation of the Contractors' Construction Schedule.

1. Correlate line items in the Schedule of Values with other required administrative schedules and forms, including:
 - a. Contractor's Construction Schedule.
 - b. Application for Payment forms, including Continuation Sheets.
 - c. List of subcontractors.
 - d. Schedule of alternates.
 - e. List of products.
 - f. List of principal suppliers and fabricators.
 - g. Schedule of submittals.
 2. Submit the Schedule of Values to the Architect at the earliest possible date but no later than 14 days before the date scheduled for submittal of the initial Applications for Payment.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish the format for the Schedule of Values. Provide at least one-line item for each Specification Section per each work area unit.
1. Identification: Include the following Project identification on the Schedule of Values:
 - a. Project name and location.
 - b. Name of the Architect.
 - c. Project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Section.
 - b. Description of Work, include separate line item of material and labor.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Orders (numbers) that affect value.
 - g. Allowance amount.
 - h. Dollar value: Percentage of Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
 3. Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Break principal subcontract amounts down into several line items.
 4. Round amounts to nearest whole dollar; the total shall equal the Contract Sum.
 5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment, purchased or fabricated and stored, but not yet installed.

- a. Differentiate between items stored on-site and items stored off-site. Include requirements for insurance and bonded warehousing, if required.
6. Provide separate line items for labor and material costs, mobilization and demobilization, closeout of documents.
7. Provide separate line item for Allowance(s), amount remaining and adjustment line items
8. Provide a separate line item for Change Order(s).
9. Provide separate line items on the Schedule of Values for initial cost of the materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
10. Margins of Cost: Show line items for indirect costs and margins on actual costs only when such items are listed individually in Applications for Payment. Each item in the Schedule of Values and Applications for Payment shall be complete. Include the total cost and proportionate share of general overhead and profit margin for each item.
11. Schedule Updating: Update and resubmit the Schedule of Values prior to the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 29 00

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AIA Document G702™ - 1992

Application and Certificate for Payment

TO OWNER:	PROJECT:	APPLICATION NO: 001	Distribution to:
		PERIOD TO:	OWNER ☐
		CONTRACT FOR: General Construction	ARCHITECT ☐
FROM	VIA	CONTRACT DATE:	CONTRACTOR ☐
CONTRACTOR:	ARCHITECT:	PROJECT NOS: //	FIELD ☐
			OTHER ☐

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract.

Continuation Sheet, AIA Document 0703, is attached.

1. ORIGINAL CONTRACT SUM.....	\$ 0.00
2. Net change by Change Orders	\$ 0.00
3. CONTRACT SUM TO DATE (Line 1 ± 2)	\$ 0.00
2. TOTAL COMPLETED & STORED TO DATE (Column G on 0703)	\$ 0.00
3. RETAINAGE:	
a. 0 % of Completed Work (Column D + E on G703)	\$ 0.00
b. 0 % of Stored Material (Column F on 0703)	\$ 0.00
Total Retainage (Lines Sa + Sb or Total in Column I of 0703)	\$ 0.00
6. TOTAL EARNED LESS RETAINAGE	\$ 0.00
(Line 4 Less Line 5 Total)	
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT	\$ 0.00
(Line 6 from prior Certificate)	
8. CURRENT PAYMENT DUE	\$ 0.00
9. BALANCE TO FINISH, INCLUDING RETAINAGE (Line 3 less Line 6)	\$ 0.00

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner	\$ 0.00	\$ 0.00
Total approved this Month	\$ 0.00	\$ 0.00
TOTALS	\$ 0.00	\$ 0.00
NET CHANGES by Change Order	\$	0.00

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR:

By: _____ Date: _____

State of: _____

County of: _____

Subscribed and sworn to before
me this _____ day of _____

Notary Public:

My Commission expires: _____

ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising this application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED \$ 0.00

(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

ARCHITECT:

By: _____ Date: _____

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract

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eAIA Document G703[™] -1992

Continuation Sheet

AJA Document G702, APPLICATION AND CERTIFICATION FOR PAYMENT, containing Contractor's signed certification is attached.
In tabulations below, amounts are stated to the nearest dollar.
Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NO: 001

APPLICATION DATE:

PERIOD TO:

ARCHITECT'S PROJECT NO:

A	B	C	D	E	F	G		H	I
ITEM NO.	DESCRIPTION OF WORK	SCHEDULED VALUE	WORK COMPLETED		MATERIALS PRESENTLY STORED (NOT IN DORE)	TOTAL COMPLETED AND STORED TO DATE (D+E+F)	% (G ÷ C)	BALANCE TO FINISH (C- G)	RETAINAGE (IF VARIABLE RATE)
			FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD					
	GRAND TOTAL	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	0.00%	\$ 0.00	\$ 0.00

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SUBCONTRACTOR/SUPPLIER
AFFIDAVIT AND WAIVER OF LIENS AND CLAIMS

Exhibit 01 29 00B

State of _____ County of _____ ss:

The undersigned, being first duly sworn, states, warrants and deposes, personally and as a duly authorized officer or representative of the Subcontractor or Supplier as designated below (referred to herein as "Subcontractor") as follows:

Designation of Instrument

This is a (check one)

☐ Final Affidavit and Waiver of Claims **must be completed**
☐ Partial
☐ Conditional (Payment to Follow)
☐ Unconditional (Payment Received)

And is (check one)

This Instrument Pertains to The Following:

Subcontractor:(name) _____

(address) _____

Person Signing This Instrument: (name) _____ (Title) _____

Project:(name) _____

(location/Address) _____

Contractor: _____

Subcontractor's Contract is with:(if other than Contractor identified above) _____

Payment Amount _____ Dollars (\$
payable through the period ending (date) _____ (referred to herein as the "Effective Date")

The Terms of This Instrument Are:

1. Subcontractor has contracted with Contractor, or another party as identified above, to furnish labor, materials, equipment and/or services in furtherance of Contractor's contractual obligations for the above described project:

2. If this Instrument is designated as a Partial Affidavit and Waiver, the Payment Amount recited above is the current balance due the Subcontractor, and such amount, together with any and all previous payments received by Subcontractor, is the total sum due to Subcontractor, exclusive of contractually provided retainage, for all labor, materials, equipment or services furnished by or through Subcontractor to or for the Contractor in respect of the Project through the above stated Effective Date. If this Instrument is designated a *Final* Affidavit and Waiver, the Payment Amount is the full and final amount due the Subcontractor for any and all labor, materials, equipment or services furnished or to be furnished by or through the Subcontractor for the Project.

3. The listing on the reverse side of this Instrument is incorporated herein by reference and sets forth, fully and correctly, the names of sub-subcontractors, materialmen, equipment lessors and laborers engaged by or under the employ of Subcontractor and to whom monies are presently due and owing from Subcontractor for labor, materials equipment or services furnished to or for the Project. Except as otherwise specifically stated in such listing, all sub-subcontractors, materialmen and laborers engaged or employed by Subcontractor have been paid in full for all labor, materials, equipment or services furnished in respect of the Project.

4. In consideration of payment of the Payment Amount, the Subcontractor completely waives, discharges and releases the Contractor, any and all owners of any title or interest in the real estate upon which the Project is situated, and their respective sureties, successors and assigns, from all liens and claims whatsoever in respect of or arising from any and all labor, materials, equipment or services furnished by or through Subcontractor to or for the Project, including without limitation mechanics' liens and claims against any contract proceeds. If this instrument is designated as a *Partial* Affidavit and Waiver, the waiver, discharge and release provided by this paragraph shall apply only to labor, materials, equipment or services furnished on or before the Effective Date hereof. If this Instrument is designated as a *Final* Affidavit and Waiver, the waiver, discharge and release provided by this paragraph shall apply to any and all labor, materials, equipment or services heretofore or hereafter furnished by or through Subcontractor to or for the Project notwithstanding the Effective Date of this Instrument.

5. The undersigned and Subcontractor will indemnify Contractor and hold it harmless against any loss, cost or expense, including cost of bond premiums, litigation expenses and attorney fees, for and in respect of any breach of any covenant, representation or warranty contained herein or any lien or other claim asserted by any person in respect of labor, materials, equipment or services which are within the scope of this Instrument.

6. If this Instrument is Conditional, the terms hereof shall become effective upon payment of the Payment Amount to Subcontractor, or at Contractor's option, jointly to Subcontractor and any persons identified and in respective amounts as stated on the reverse side hereof. which payment shall be the sole consideration for this Affidavit and Waiver. If this Instrument is designated above as Unconditional, the undersigned and Subcontractor acknowledge receipt of the Payment Amount and agree that this Instrument shall be effective in all respects as of the date hereof.

(Individual Signature) _____

Subscribed and Sworn to before me this _____ day of _____, 20 _____

(Notary Public Signature): _____ My Commission Expires _____

(Typed/Printed Name): _____ Residing in: _____ County

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* * SAMPLE * *

* **Al.A** Document G707"-1994

Consent Of Surety to Final Payment

PROJECT: <i>(Name and address)</i>	ARCHITECT'S PROJECT NUMBER:	OWNER: ☐
		ARCHITECT: ☐
	CONTRACT FOR: General Construction	CONTRACTOR: ☐
TO OWNER: <i>(Name and address)</i>	CONTRACT DATED:	SURETY: ☐
		OTHER: ☐

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the
(Insert name and address of Surety)

, SURETY,

on bond of
(Insert name and address of Contractor)

, CONTRACTOR,

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety
of any of its obligations to
(Insert name and address of Owner)

, OWNER,

as set forth in said Surety's bond.

IN WITNESS WHEREOF the Surety has hereunto set its band on *this* date:
(Insert in writing the month followed by the numeric date and year.)

(Surety)

(Signature of authorized representative)

Attest:
(Seal):

(Printed name and title)

END OF EXHIBIT 01 29 00 C

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* * SAMPLE * *

DRAFT AIA[®] Document G707A[™] – 1994

Consent of Surety to Reduction in or Partial Release of Retainage

PROJECT: *(Name and address)*

ARCHITECT'S PROJECT NUMBER:

CONTRACT FOR:

TO OWNER: *(Name and address)*

CONTRACT DATED:

OWNER: ☐

ARCHITECT: ☐

CONTRACTOR: ☐

SURETY: ☐

OTHER: ☐

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the

(Insert name and address of Surety)

on bond of

(Insert name and address of Contractor)

, SURETY,

hereby approves the reduction in or partial release of retainage to the Contractor as follows:

, CONTRACTOR,

The Surety agrees that such reduction in or partial release of retainage to the Contractor shall not relieve the Surety of any of its obligations to

(Insert name and address of Owner)

, OWNER,

as set forth in said Surety's bond.

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date:

(Insert in writing the month followed by the numeric date and year.)

(Surety)

(Signature of authorized representative)

Attest:

(Seal):

(Printed name and title)

SECTION 01 31 00 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project, including, but not limited to, the following:
 - 1. General coordination procedures.
 - 2. Cleaning and protection.
 - 3. Supervisory personnel.
 - 4. Limitations for use of site.
 - 5. General installation provisions.
- B. Related Requirements:
 - 1. Section 01 31 19 "Project Meetings" for progress meetings, coordination meetings, and pre-installation conferences.
 - 2. Section 01 33 00 "Submittal Procedures" for preparing and submitting the Contractor's Construction Schedule.
 - 3. Section 01 60 00 "Product Requirements" for coordinating general installation.
 - 4. Section 01 77 00 "Closeout Procedures" for coordinating contract closeout.

1.3 COORDINATION

- A. Coordinate construction operations included in various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in the sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to assure maximum accessibility for required maintenance, service, and repair.
 - 3. Make provisions to accommodate items scheduled for later installation.

- B. Where necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
 - 1. Prepare similar memoranda for the Owner and separate contractors where coordination of their work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and assure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of schedules.
 - 2. Installation and removal of temporary facilities.
 - 3. Delivery and processing of submittals.
 - 4. Progress meetings.
 - 5. Project closeout activities.
- D. Conservation: Coordinate construction operations to assure that operations are carried out with consideration given to conservation of energy, water, and materials.
 - 1. Salvage materials and equipment involved in performance of, but not actually incorporated in, the Work.
- E. The Contractor will manage construction of the project. The Architect will confirm compliance to contract documents.
- F. Contractor shall schedule, manage, and expedite all work under his contract, coordinating his work with all other contractors and trades so that no conflicts of timing or location occur. The work shall progress according to the approved and current construction progress schedule.
- G. Contractor shall:
 - 1. Assume full responsibility for protection and safekeeping of products stored on premises.
 - 2. Move any stored products which interfere with operations of Owner or other contractors.
 - 3. Furnish, erect and maintain barricades, warning lights, signs, guards, and overhead protection as may be required for his work.
 - 4. Notify, in writing through the Architect, the Owner at least forty-eight (48) hours in advance of utility connections or shutoff.
 - a. Coordinate these operations with the Owner and complete the work in the minimum amount of time.
 - 5. Shut offs must be accomplished to accommodate the Owner's schedule. Overtime, round the clock, holiday or weekend work may be required at no additional cost to the Owner.

6. Prepare coordination drawings where work by separate entities requires fabrication off-site of products and materials which must accurately interface. Coordination drawings shall indicate how work will interface and shall indicate installation sequence.

1.4 SUPERVISORY PERSONNEL

- A. Contractor must designate a superintendent who shall represent the contractor on the jobsite. Directions given to the superintendent shall be as binding as if given to the contractor.
- B. Once a superintendent is assigned to the project he cannot be removed or replaced without receiving the Architect and Owner's approval.
- C. The prime contractor and/or superintendent shall:
 1. Man, schedule, and supervise the work to meet the current construction schedule.
 2. Purchase and schedule delivery of materials and sublet subcontractors to meet the construction schedule.
 3. Inspect the work of other contractors which precedes your work and upon which your work depends. Report to the Architect any deviations from the contract documents. Commencement of work on substrate constitutes acceptance of the other contractor's work.
 4. Cooperate with other prime contractors doing work on this project.
 5. Notify the Architect of conditions that could delay the work.
 6. Furnish the Architect with a daily manpower report and description of work completed as requested.
 7. Attend coordination and progress meetings as scheduled by Architect to review coordination of various phases of work. The Contractor shall be represented by persons with full authority to act on matters pertaining to the work.

1.5 LIMITATIONS FOR USE OF SITE

- A. General: Limitations on site usage as well as specific requirements that impact utilization are indicated on the site utilization drawings and by other Contract Documents.
- B. Confine operations at site to areas permitted by law, ordinances, permits, and contract documents.
- C. Major equipment is not permitted to be stored on-site.
- D. Availability of on-site storage is limited. Contractor shall store on-site only those materials which will be installed within the following 48-hour period.
- E. Long term storage will not be allowed without prior approval from the Architect and Owner. Coordinate all installations with adjoining and related items of work. Check the scopes of work being provided by other prime contractors and their respective drawings, specifications and shop

drawings for proper coordination of details. In the event of conflicting requirements, consult with the Architect prior to proceeding with the work.

- F. All work force personnel shall visibly display identification of person's name and company name.

1.6 GENERAL INSTALLATION PROVISIONS

- A. Inspection of Conditions: Require the installer of each major component to inspect both the substrate and conditions under which work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable proceed acceptable manner.
- B. Manufacturer's Instructions: Comply with manufacturer's installation instructions and recommendations, to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in contract documents.
- C. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.
- D. Provide attachment and connection devices and methods necessary for securing Work. Secure work true to line and level. Allow for expansion and building movement.
- E. Visual Effects: Provide uniform joint widths in exposed work. Arrange joints in exposed work to obtain the best visual effect. Refer questionable choices to the Architect/Engineer for final decision.
- F. Re-check measurements and dimensions before starting each installation.
- G. Install each component during weather conditions and project status that will ensure the best possible results. Isolate each part of the completed construction from incompatible material as necessary to prevent deterioration.
- H. Coordinate temporary enclosures with required inspections and tests to minimize necessity of uncovering completed construction for that purpose.
- I. Mounting Heights: Where mounting heights are not indicated, submit a Request for Information (RFI) to the Architect for clarification.
- J. During handling and installation, clean and protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from damage or deterioration at substantial completion.

1.7 SUBMITTALS

- A. Coordination Drawings: Prepare coordination drawings where careful coordination is needed for installation of products and materials fabricated by separate entities. Prepare coordination drawings where limited space availability necessitates maximum utilization of space for efficient installation of different components.

1. Show the relationship of components shown on separate Shop Drawings.
 2. Indicate required installation sequences.
- B. Staff Names: Within 15 days of commencement of construction operations, submit a list of the Contractor's principal staff assignments, including the superintendent and other personnel in attendance at the Project Site. Identify individuals and their duties and responsibilities. List their addresses and telephone numbers.
1. Post copies of the list in the Project meeting room, the temporary field office, and each temporary telephone.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 GENERAL COORDINATION PROVISIONS

- A. Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.
- B. Coordinate temporary enclosures with required inspections and tests to minimize the necessity of uncovering completed construction for that purpose.

3.2 CLEANING AND PROTECTION

- A. Clean and protect construction in progress and adjoining materials in place, during handling and installation. Apply protective covering where required to assure protection from damage or deterioration at Substantial Completion.
- B. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to assure operability without damaging effects.
- C. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. Where applicable, such exposures include, but are not limited to, the following:
 1. Excessive static or dynamic loading.
 2. Excessive internal or external pressures.
 3. Excessively high or low temperatures.
 4. Thermal shock.
 5. Excessively high or low humidity.
 6. Air contamination or pollution.

7. Water or ice.
8. Solvents.
9. Chemicals.
10. Light.
11. Radiation.
12. Puncture.
13. Abrasion.
14. Heavy traffic.
15. Soiling, staining, and corrosion.
16. Bacteria.
17. Rodent and insect infestation.
18. Combustion.
19. Electrical current.
20. High-speed operation.
21. Improper lubrication.
22. Unusual wear or other misuse.
23. Contact between incompatible materials.
24. Destructive testing.
25. Misalignment.
26. Excessive weathering.
27. Unprotected storage.
28. Improper shipping or handling.
29. Theft.
30. Vandalism.

3.3 COMMUNICATION PROCEDURES

- A. All correspondence must go through the Architect.
- B. In the event contract document clarification is required, Contractor to submit a 'Request for Information' (RFI) must be submitted to the Architect. Refer to Exhibit '01 26 13A'.

END OF SECTION 01 31 00

SECTION 01 31 19 - PROJECT MEETINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for project meetings, including, but not limited to, the following:
 - 1. Preconstruction conferences.
 - 2. Progress meetings.
- B. Related Requirements:
 - 1. Section 01 31 00 "Project Management and Coordination" for procedures for coordinating project meetings with other construction activities.
 - 2. Section 01 33 00 "Submittal Procedures" for submitting the Contractor's Construction Schedule.

1.3 PRECONSTRUCTION CONFERENCE

- A. Schedule a preconstruction conference before starting construction, at a time convenient to the Owner and the Architect, but no later than 15 days after execution of the Agreement. Hold the conference at the Project Site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.
- B. Attendees: Authorized representatives of the Owner, Architect, and Engineer(s); the Contractor and its superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.
- C. Agenda: Discuss items of significance that could affect progress, including the following:
 - 1. Administrative Items.
 - 2. Tentative construction schedule.
 - 3. Critical work sequencing.
 - 4. Designation of responsible personnel.
 - 5. Procedures for processing field decisions and Change Orders.
 - 6. Procedures for processing Applications for Payment.

7. Distribution of Contract Documents.
8. Submittal of Shop Drawings, Product Data, and Samples.
9. Preparation of record documents.
10. Use of the premises.
11. Parking availability.
12. Storage areas.
13. Equipment deliveries and priorities.
14. Safety procedures.
15. First aid.
16. Security.
17. Housekeeping.
18. Working hours.

1.4 PROGRESS MEETINGS

- A. Conduct progress meetings at the Project Site at regular intervals. Notify the Owner and the Architect of scheduled meeting dates. Coordinate dates of meetings with preparation of the payment request and review of draft payment applications.
 1. Progress meetings shall be had at two-week intervals, beginning at the mobilization on-site.
- B. Attendees: In addition to representatives of the Owner and the Architect, each subcontractor, supplier, or other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.
- C. Agenda: Review and correct or approve minutes of the previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the status of the Project.
 1. Contractor's Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Contractor's Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 2. Review the present and future needs of each entity present, including the following:
 - a. Administrative items.
 - b. Completed work activities since the last meeting.
 - c. Anticipated work activities prior to next meeting.
 - d. Status of submittals.
 - e. Anticipated deliveries.
 - f. Off-site fabrication problems.
 - g. Project schedule.

- h. Status of Architect's Supplemental Instructions.
 - i. Status of Proposal Requests.
 - j. Status of Requests for Information.
 - k. Status of Allowance Adjustments.
 - l. Review of Project Schedule.
 - m. Impacts of other projects.
 - n. Coordination items with Owner's operations
 - o. Safety and reported Injuries
 - p. Housekeeping.
 - q. Quality and work standards
 - r. Payment Applications review
 - s. Comments by contractor, Architect, and Owner.
 - t. Additional applicable items.
- D. Schedule Updating: The Contractor shall revise the Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue the revised schedule concurrently with the report of each meeting.
 - 1. The construction schedule shall be updated monthly to reflect actual construction progress. Schedule shall be presented at Construction Progress meeting.
 - 2. Contractor shall prepare a two-week 'look ahead' schedule at each Construction Progress meeting. Schedule shall provide anticipated activities, including specific areas of work, activities that may impact Owner's operations; Owner shall review and comment on anticipated activities; Contractor shall adjust schedule of activities accordingly at no additional cost to the contract or change in overall completion date of project.

1.5 PREINSTALLATION CONFERENCES

- A. Conduct a pre-installation conference at Project site before each construction activity that requires coordination with other construction.
- B. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
- C. Agenda: Review progress of other construction activities and preparations for the particular activity that is under consideration, including requirements for the following:
 - 1. Contract Documents.
 - 2. Options.
 - 3. Security Issues.
 - 4. Related Change Orders.
 - 5. Purchases.
 - 6. Deliveries.
 - 7. Submittals.

8. Review of mockups.
9. Possible conflicts.
10. Compatibility problems.
11. Time schedules.
12. Weather limitations.
13. Manufacturer's written recommendations.
14. Warranty requirements.
15. Compatibility of materials.
16. Acceptability of substrates.
17. Temporary facilities and controls.
18. Space and access limitations.
19. Regulations of authorities having jurisdiction.
20. Testing and inspecting requirements.
21. Required performance results.
22. Protection of construction and personnel.

D. REPORTING:

1. Contractor shall record significant conference discussions, agreements, and disagreements.
2. Do not proceed with installation if the conference cannot be successfully concluded.
3. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 31 19

SECTION 01 73 25 – CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General, Supplementary Conditions, and other Division 01 Specification sections, apply to this section.

1.2 SUMMARY

- A. This section specifies administrative and procedural requirements for complete cutting and patching.
- B. Refer to other Sections for specific requirements and limitations applicable to cutting and patching individual parts of the work.
 - 1. Requirements of this Section apply to Contractor' work force.

1.3 DEFINITIONS

- A. Cutting: Removal of existing construction necessary to permit installation or performance of other work.
- B. Patching: Fitting and repair work required to restore surfaces to original condition after installation of other work.

1.4 SUBMITTALS

- A. Submit written request (72) working hours in advance to the Architect/Engineer before cutting or alteration which affects the following:
 - 1. Structural integrity of any element of project.
 - 2. Integrity of weather-exposed or moisture-resistant element.
 - 3. Efficiency, maintenance, or safety of any operational element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of separate contractor.
- B. Describe the extent of cutting and patching required and how it is to be performed; indicate why it cannot be avoided.

- C. Describe anticipated results in terms of changes to existing construction; include changes to structural elements and operating components as well as changes in the building's appearance and other significant visual elements.
- D. List products to be used and firms or entities that will perform work.
- E. Indicate dates when cutting and patching is to be performed.
- F. List utilities that will be disturbed or affected, including those that will be relocated and those that will be temporarily out-of-service. Indicate how long service will be disrupted.
- G. Where cutting and patching involves addition of reinforcement to structural elements, submit details and engineering calculations to show how reinforcement is integrated with the original structure.

1.5 QUALITY ASSURANCE

- A. Requirements for structural work: Do not cut and patch structural elements in a manner that would reduce their load-carrying, or deflection resistive capacity.
- B. Obtain approval of the Architect/Engineer before cutting and patching the following structural elements:
 - 1. Foundation construction.
 - 2. Bearing and retaining walls.
 - 3. Structural concrete.
 - 4. Structural steel.
 - 5. Lintels.
 - 6. Structural decking.
 - 7. Miscellaneous structural metals.
 - 8. Equipment supports.
 - 9. Piping, ductwork, vessels, and equipment.
- C. Operational and Safety Limitations: Do not cut and patch operating elements or safety related components in a manner that would result in reducing their capacity to perform as intended, or result in increased maintenance, or decreased operational life or safety.
- D. Obtain approval of the Architect/Engineer before cutting and patching the following operating elements or safety-related systems:
 - 1. Shoring, bracing, and sheeting.
 - 2. Primary operational systems and equipment.
 - 3. Air or smoke barriers.
 - 4. Water, moisture, or vapor barriers.
 - 5. Membranes and flashings.
 - 6. Fire protection systems.
 - 7. Noise and vibration control elements and systems.

8. Control systems.
 9. Communication systems.
 10. Conveying systems.
 11. Electrical wiring systems.
- E. Visual Requirements: Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in the Architect's opinion, reduce the building's aesthetic qualities, or result in visual evidence of cutting and patching. Remove and replace work cut and patched in a visually unsatisfactory manner.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Use materials which are identical to existing materials. If identical materials are not available or cannot be used where exposed surfaces are involved, which use materials which match existing adjacent surfaces to the fullest extent possible with regard to visual effect. The architect must give his approval to these materials. Use materials whose installed performance will equal or surpass that of existing materials.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Before cutting existing surfaces, examine surfaces to be cut and patched and conditions under which cutting, and patching is to be performed. Take corrective action before proceeding, if unsafe or unsatisfactory conditions are encountered.
- B. Before proceeding, meet at the site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.
- C. Beginning of cutting or patching means acceptance of existing conditions.

3.2 PREPARATION

- A. Temporary Support: Provide temporary support of work to be cut.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Project which might be exposed during cutting and patching operations.
- C. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

- D. Take all precautions necessary to avoid cutting existing pipe, conduit or ductwork serving the building, but scheduled to be removed or relocated until provisions have been made to bypass them.

3.3 PERFORMANCE

- A. General: Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.
 - 1. Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.
- B. Cutting: Cut existing construction using methods least likely to damage elements to be retained or adjoining construction. Where possible review proposed procedure with the original installer; comply with the original installer's recommendations.
 - 1. In general, where cutting is required use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slot neatly to size required with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Cut through concrete and masonry using a cutting machine such as a carborundum saw or diamond core drill.
 - 4. By-pass utility services such as pipe or conduit, before cutting, where services are shown or required to be removed, relocated, or abandoned. Cut-off pipe or conduit in walls or partitions to be removed. Cap, valve or plug and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after by-passing and cutting.
 - 5. Remove unsuitable material not marked for salvage, such as rotted wood, corroded metals, and deteriorated masonry and concrete. Replace material as specified including finished work.
- C. Patching: Patch with durable seams that are as invisible as possible. Comply with specified tolerances.
 - 1. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
 - 2. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - 3. Where removal of walls or partitions extends one finished area into another, patch and repair floor and wall surfaces in the new space to provide an even surface of uniform color and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

4. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken area containing the patch, after the patched area has received primer and second coat.
5. Employ appropriate trade contractor to perform cutting for weather exposed and moisture resistant elements, and sight-exposed surfaces.

3.4 ADJUSTMENTS

- A. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
- B. Where a change of plane of 1/4 inch or more occurs, submit recommendation for providing a smooth transition for Architect/Engineer review.
- C. Fit work at penetrations of surfaces.

3.5 CLEANING

- A. Thoroughly clean areas and spaces where cutting and patching is performed or used as access. Remove completely paint, mortar, oils, putty, and items of similar nature. Thoroughly clean piping, conduit and similar features before painting or other finishing is applied. Restore damaged pipe covering to its original condition.

END OF SECTION 01 73 25

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DIVISION 02 THROUGH 33 SUBCONTRACTORS AND MANUFACTURERS LIST

Project: City of Livonia, Michigan
Fire Stations #3, #6, and Dept. of Public Works
Generator Replacements

NAME OF BIDDER _____ DATE _____

ADDRESS: _____ PHONE _____

BY _____
Printed Signature

The undersigned hereby submits the following Subcontractors and Manufacturers list, which becomes a part of the undersigned Contract proposal. Subcontractor purchased material, equipment, and labor shall be under the direct management of the Prime Contractor. If dual listing of manufacturers or subcontractors is herein made, it is understood the Architect/Engineer (not the Contractor) will select the manufacturer or subcontractor of his choice.

<u>Specification Section</u>	<u>Description</u>	<u>Subcontractor</u>	<u>Manufacturer</u>
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
13. _____	_____	_____	_____
14. _____	_____	_____	_____
15. _____	_____	_____	_____
16. _____	_____	_____	_____
17. _____	_____	_____	_____
18. _____	_____	_____	_____
19. _____	_____	_____	_____
20. _____	_____	_____	_____

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CADD INFORMATION REQUEST

1. Company Information:

Company: _____

Address: _____

Telephone: _____

Contact(s): _____

Job Name:

DLZ Project:

2. Drawings: _____

3. Method: Email: _____

4. Operating System:

5. Drawing Program: AutoCAD Version: _____
REVIT: _____
Other _____

6. Preferred Format: DWG PDF TIF JPG

7. Cost/Charges: _____ drawings at \$50.00 per drawing = \$0.00

AGREED AND ACCEPTED _____

Authorized Signature

If this information is acceptable, please sign and return with check and Indemnification Clause attached to:

DLZ Michigan, Inc.
Attn: Dan Swiontoniowski, AIA

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Place on Company letterhead

DISCLAIMER FOR USE OF CONTRACT DOCUMENT CADD DISKS

<Insert Company Name> located at <Insert mailing address>

hereafter referred to as the Requesting Company, does hereby acknowledge that DLZ Michigan, Inc. has been requested to deliver to them CADD file(s) for the following items: <Insert drawing name and number> to be used by the Requesting Company, solely for the purpose of the coordination and expediting of the work for the Insert Project Name and for no other purpose. Except for the preceding purpose, the Requesting Company shall make no alterations whatsoever to said CADD file(s) without the written consent and at the direction of DLZ Michigan, Inc.

DLZ Michigan, Inc. makes no warranty, either expressed or implied, as to the quality or content of the information contained in said CADD disk(s) except as herein stated, and further DLZ Michigan, Inc. makes no warranty expressed or implied for the use of CADD disk(s) by the Requesting Company for any purpose other than that specifically instructed as intended use for same. Further, said CADD disk(s) shall not be assigned to any party other than the Requesting Company.

ACKNOWLEDGED AND ACCEPTED:

Signature: _____

Name: _____

Title: _____

Date: _____

SECTION 01 33 26 – QUALITY CONTROL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Quality assurance and control of installation.
 - 2. References.
 - 3. Field samples.
 - 4. Inspection services.
 - 5. Manufacturers' field services and reports.
- B. Related Requirements:
 - 1. Section 01 33 00 – Submittal Procedures.

1.3 QUALITY ASSURANCE/CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.
- B. Comply fully with manufacturer's instructions, including each step-in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- D. Comply with specified standards as a minimum quality for the work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform work by persons qualified to produce workmanship of specified quality.
- F. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.4 REFERENCES

- A. Conform to reference standards current at date of Notice to Proceed.
- B. Obtain copies of standards when required by Contract Documents.
- C. Should specified reference standards conflict with Contract Documents, request clarification for Architect before proceeding.

1.5 FIELD SAMPLES

- A. Install field samples at the site as required by individual specifications sections for review.
- B. Acceptable samples represent a quality level for the Work.
- C. Where field sample is specified in individual sections to be removed, clear area after field sample has been accepted by Architect/Engineer.

1.6 PRODUCT AND EQUIPMENT

- A. Provide each specific product and equipment from a single manufacturer and source.
- B. Follow manufacturer's instructions and recommendations for storage, preparation and installation of product and equipment.

1.7 MANUFACTURERS' FIELD SERVICES AND REPORTS

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions or surfaces and installation, quality of workmanship, start-up of equipment, test, adjust, and balance of equipment, as applicable, and to initiate instructions when necessary.
- B. Individuals to report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- C. Submit report within 15 days of observation to the Architect for review.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 33 26

SECTION 01 42 00 - REFERENCES

PART 1 - GENERAL

1.1 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. Indicated: The term indicated refers to graphic representations, notes, or schedules on the drawings or other paragraphs or schedules in the Specifications, and similar requirements in the Contract Documents. Terms such as shown, noted, scheduled, and specified are used to help the reader locate the reference. There is no limitation on location.
- C. Include: The term include, includes, or included means a part of a whole. It is not a finite or all-inclusive term and shall not limit the scope of the work. It is an example or partial list only. There may be additional items required elsewhere in the Contract Documents.
- D. Directed: Terms such as directed, requested, authorized, selected, approved, required, and permitted mean directed by the Architect/Engineer, requested by the Architect/Engineer, and similar phrases. However, no implied meaning shall be interpreted to extend the Architect's/Engineer's responsibility into the Contractor's area of construction supervision.
- E. Approved: The term approved, when used in conjunction with the Architect's/Engineer's action on the Contractor's submittals, applications, and requests, is limited to the Architect's/Engineer's duties and responsibilities as stated in the Conditions of the Contract. Such approval shall not release the Contractor from responsibility to fulfill contract requirements, unless otherwise provided in the contract documents.
- F. Regulations: The term regulations include laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the work, whether or not lawfully imposed by authorities having jurisdiction.
- G. Furnish: The term furnish means supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- H. Install: The term install describes operations at the project site including the actual unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- I. Provide: The term provide means to furnish and install, complete and ready for the intended use.
- J. Installer: An installer is the Contractor, or another entity engaged by the Contractor, either as an employee, subcontractor, or contractor of the lower tier, to perform a particular construction activity, including installation, erection, application, and similar operations. Installers are required to be experienced in the operations they are engaged to perform.

1. The term experienced, when used with the term installer, means having satisfactorily completed not less than five previous projects similar in size and scope to this project, being familiar with the special requirements necessary to successfully complete the work indicated, and having complied with requirements of the authority having jurisdiction.
2. Trades: Using terms such as carpentry are not intended to imply that certain construction activities must be performed by accredited or union member individuals of a corresponding generic name, such as carpenter. It also does not imply that requirements specified apply exclusively to trades people of the corresponding generic name.
3. Assigning Specialists: Certain sections of the Specifications require that specific construction activities shall be performed by specialists who are recognized experts in those operations. The specialists must be engaged for those activities, and their assignments are requirements over which the Contractor has no choice or option. However, the ultimate responsibility for fulfilling contract requirements remains with the Contractor.
 - a. This requirement shall not be interpreted to conflict with enforcing building codes and similar regulations governing the work. It is also not intended to interfere with local trade union jurisdictional settlements and similar conventions.
- K. Project Site: The project site is the space available to the contractor for performing construction activities either exclusively or in conjunction with others performing other work as part of the project. The extent of the project site is shown on the drawings and may or may not be identical with the description of the land on which the project is to be built.
- L. Testing Agencies: A testing agency is an independent entity engaged to perform specific inspections or tests, either at the project site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.
- M. Architect: The terms "Architect", "Engineer" or "Architect/Engineer" refers to the Architect for this project. DLZ Michigan, Inc. is the Architect and Engineer of Record for this Project.
- N. Owner: The term "Owner" refers to Mishawaka Penn Harris Public Library.

1.2 SPECIFICATION FORMAT AND CONTENT EXPLANATION

- A. Specification Format: These Specifications are organized into Divisions and Sections based on the Construction Specifications Institute's 50 Division Format and "Master-format" numbering system.
- B. Specification Content: This Specification uses certain conventions regarding the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are explained as follows:
 1. Abbreviated Language: Language used in Specifications and other contract documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words which are implied, but not stated, shall be interpolated as the sense requires. Singular words

will be interpreted as plural and plural words interpreted as singular where applicable as the context of the contract documents indicate.

2. Imperative and Streamlined Language is used generally in the Specifications. Requirements expressed in the imperative mood are to be performed by the Contractor. At certain locations in the text, subjective language is used for clarity to describe responsibilities that must be fulfilled indirectly by the Contractor, or by others when so noted.
 - a. The words "shall be" are implied wherever a colon (:) is used within a or phrase.

1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Except where the contract documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the contract documents to the extent referenced. Such standards are made a part of the contract documents by reference.
- B. Publication Dates: Comply with the standards in effect as of the date of the contract documents.
- C. Conflicting Requirements: Where compliance with two or more standards is specified and where the standards may establish different or conflicting requirements for minimum quantities or quality levels, refer requirements which are different but apparently equal and other uncertainties to the Architect/Engineer for a decision before proceeding.
 1. Minimum Quantity or Quality Levels: The quantity of quality level indicated shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements. Refer uncertainties to the Architect/Engineer for a decision before proceeding.
- D. Copies of Standards: Each entity engaged in construction on the project is required to be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the contract documents.
 1. Where copies of standards are needed to perform a required construction activity, the Contractor shall obtain copies directly from the publication source. Maintain one copy of required standards at the project site available for reference by persons who have a reasonable need.
- E. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. Where such acronyms or abbreviations are used in the Specifications or other contract documents, they mean the recognized name of the trade association, standards-generating organization, authority having jurisdiction, or other entity applicable to the context of the Text provision. Refer to the Encyclopedia of Association, published by Gale Research Co., available in most libraries and are on file in the Office of the Architect.

1.4 GOVERNING REGULATIONS AND AUTHORITIES

- A. Michigan State Codes: Current issue with amendments for the work related to Contractor's contract.

1.5 SUBMITTALS

- A. Permits, Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence, and records established in conjunction with compliance with standards and regulations bearing upon performance of the work. These items are to be submitted through the Architect.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 42 00

SECTION 01 45 35 – STRUCTURAL INSPECTIONS AND TESTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Project requirements for Structural Inspections and Testing. An independent testing firm or firm shall perform structural inspections and testing for the structural components as specified. Work shall be in addition to and independent of the Contractor's quality control tests, inspections, and inspectors.
- B. Related Sections: For material testing and quality control requirements
 - 1. Section 03 20 00 "Concrete Reinforcing"
 - 2. Section 03 30 00 "Cast-in-place Concrete"
 - 3. Section 04 20 00 "Unit Masonry"
 - 4. Section 31 20 00 "Earth Moving"

1.3 REFERENCES

- A. The publications listed below form a part of this specification and are referred to within the text by the basic designation only.
 - 1. ACI 318 "Building Code Requirements for Structural Concrete and Commentary"
 - 2. TMS 402/602 "Building Code Requirements and Specification for Masonry Structures and Related Commentaries"
 - 3. ANSI/AISC 341 "Seismic Provisions for Structural Steel Buildings"
 - 4. ANSI/AISC 360 "Specification for Structural Steel Buildings"
 - 5. ASCE 7 "Minimum Design Loads for Buildings and Other Structures"
 - 6. ASTM A435/A435M "Standard Specification for Straight-Beam Ultrasonic Examination of Steel Plates"
 - 7. ASTM A615/A615M "Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement"
 - 8. ASTM A898/A898M "Standard Specification for Straight Beam Ultrasonic Examination of Rolled Steel Structural Shapes"

1.4 DEFINITIONS

- A. Continuous Structural Inspection: Continuous structural inspection is the full time observation of the work by the Structural Inspector present in the work area whenever work is being performed.
- B. Periodic Structural Inspection: Periodic structural inspection is the intermittent observation of the work by a Structural Inspector present in the work area while work is being performed. The intermittent observation periods shall be: at times of significant work, recurrent over the complete work period, and total at least 25 percent of the total work time.
- C. Structural Inspector: The individual or firm responsible for managing and coordinating the inspection and testing program. The structural inspector is responsible for collecting reports from inspection and testing agencies, submits interim and final reports to the Building Official, Owner & Structural Engineer of Record, verifies construction is in compliance with the Contract Documents, as supplemented by shop drawings and other submittals. The Structural Inspector is a person or firm employed by the Owner and approved by the Structural Engineer of Record as being qualified by knowledge and experience to perform the Structural Inspection for the category of work being constructed. Structural Inspectors perform their duties independent from the construction quality control staff employed by the Contractor.

1.5 QUALIFICATIONS

- A. Where indicated elsewhere, the following qualifications are defined as follows:
 - 1. PE/SE – A licensed professional or structural engineer specializing in the design of building structures.
 - 2. GE – A licensed professional engineer specializing in soil mechanics and foundations.
 - 3. CFTT – ACI Concrete Field Testing Technician – Grade I
 - 4. CCI – ACI Concrete Construction Special Inspector
 - 5. LTT – ACI Concrete Laboratory Testing Technician – Grade I & II or Level 1 & 2
 - 6. STT – ACI Concrete Strength Testing Technician
 - 7. CWI – AWS Certified Welding Inspector
 - 8. SSI – AWS/AISC Certified Structural Steel Inspector
 - 9. ASNT – American Society of Non-Destructive Testing Technician – Level II or III
 - 10. SMSI – ICC Structural Masonry Special Inspector
 - 11. SWSI – ICC Structural Steel and Welding Special Inspector
 - 12. PCSI – ICC Prestressed Concrete Special Inspector
 - 13. RCSI – ICC Reinforced Concrete Special Inspector
 - 14. CT – NICET Concrete Technician Levels I, II, III & IV
 - 15. ST – NICET Soils Technician – Levels I, II, III & IV
 - 16. GET – NICET Geotechnical Engineering Technician – Levels I, II, III & IV

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data:
 - 1. Structural Inspector
 - a. Certification attesting that the Structural Inspector is qualified by knowledge and experience to perform the specified Structural Inspections. Information, which provides evidence of the knowledge and experience necessary to qualify a person or firm as a Structural Inspector for the category of work being certified.
 - b. Use a Structural Inspector to perform Structural Inspections required by this section. More than one Structural Inspector may be required to provide the varied knowledge and experience necessary to adequately inspect all of the categories of work requiring Structural Inspection.
- B. Schedule of Inspection and Testing Agencies
 - 1. Include scope of testing services provided by each Agency employed.
- C. Field quality-control reports
- D. Quality Control Plan
 - 1. Include a certificate indicating that the plan meets the content specified in this section with plan submittal.
 - 2. A list of all items that require quality control Structural Inspection and testing, including the type, frequency, extent, and duration of the structural inspection for each item on this list.
 - 3. A list of all items that require quality control testing, including the type and frequency of testing for each item on this list.
 - 4. The content, distribution, and frequency of structural inspection reports.
 - 5. The content, distribution, and frequency of testing reports.
 - 6. The procedures, controls, and people used within the Contractor's organization to develop, sign, and distribute Structural Inspection and Testing reports along with the position title and pertinent qualifications of all Contractor personnel involved.
- E. Certificate of Compliance – to be submitted by an approved fabricator where the structural inspection requirements have been waived.
- F. Quality Assurance Plan
 - 1. Each Contractor responsible for the construction of any component of the lateral force resisting system shall submit a written statement of responsibility to the Structural Engineer of Record and the Owner prior to the commencement of work.
 - 2. Written plan shall acknowledge awareness of the structural inspection and testing requirements contained in this specification and the individual technical specifications.
 - 3. Elements of the Lateral Force Resisting System consist of the following:
 - a. Roof deck and its connections to supporting members.
 - b. Floor deck and its connections to supporting members.
 - c. Roof and Floor diaphragm collectors/drag struts and their connections (generally consists of the framing elements in line with the shear walls, moment frames or braced frames below)
 - d. Moment frames and their connections, anchorage and foundations.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.1 STATEMENT OF STRUCTURAL INSPECTIONS – Structural inspection and testing shall be performed on all structural elements whether constructed or fabricated on-site or off-site. For elements fabricated off-site at an approved manufacturing facility the following requirements may be waived, subject to approval by the Structural Engineer of Record. At completion of fabrication, the approved fabricator shall submit a certificate of compliance to the Structural Engineer of Record stating that the work was performed in accordance with the Contract Documents.

A. Soils

1. The following items require periodic inspection
 - a. Verify materials below shallow foundations are adequate to achieve the design bearing capacity indicated on the Contract Documents.
 - b. Verify excavations are extended to proper depth and have reached proper material.
 - c. Perform classification and testing of compacted fill materials
 - d. Prior to placement of compacted fill, observe subgrade and verify that the site has been properly prepared.
2. The following item requires continuous inspection
 - a. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.
 - b. Qualifications: The inspection and testing work may be performed by an ST, or GET as appropriate, however all reports shall be reviewed by a GE prior to submittal of reports to the Special Inspector.

B. Reinforcing Steel

1. Inspection of Reinforcing Steel
 - a. Verify size, spacing, cover, positioning, condition and grade of reinforcing steel. Confirm locations are within stated tolerances.
 - b. Verify bars are free of form oil or other deleterious materials.
 - c. Inspect bar laps and mechanical splices.
 - d. Verify bars are adequately tied and supported on chairs or bolsters
 - e. Periodic inspection
 - f. Qualifications: CCI or RCSI
2. Inspection of welded reinforcing steel
 - a. Verify material conforms to ASTM A706 or material testing has been performed to confirm weldability of the material.
 - b. Visual inspection of all welds
 - c. Continuous inspection
 - d. Qualifications: CWI

- C. Cast-in-Place Concrete
 - 1. Structural Inspection is not required for:
 - a. Nonstructural concrete slabs supported directly by ground
 - b. Concrete patios, driveways and sidewalks on grade.
 - 2. Mix Design
 - a. Verify concrete batch ticket matches indicated use.
 - b. Confirm all specified material tests are performed and test specimens are properly stored.
 - c. Continuous inspection
 - 3. Anchor rod installation
 - a. Verify proper anchor size, grade, embedment and orientation.
 - b. Verify template used if required by Contract Documents and all anchors properly secured prior to concrete placement.
 - c. Continuous inspection
 - 4. Concrete Placement
 - a. Verify forms are the correct size and properly supported.
 - b. Verify ground is not frozen
 - c. Verify all embedded items are located in accordance with the approved drawings.
 - d. Verify that concrete conveyance and depositing avoids segregation or contamination.
 - e. Verify concrete is properly consolidated
 - f. Periodic Inspection
 - 5. Maintenance of curing temperature and techniques
 - a. Verify proper hot and cold weather procedures are followed
 - b. Verify proper application of curing technique and length of cure
 - c. Periodic inspection. Inspection to be increased to continuous during Hot and Cold weather procedures.
 - 6. Qualifications: All cast-in-place concrete inspections shall be by CT, CCI or RCSI
- D. Concrete Masonry – Inspection and testing to be in accordance with Level B requirements
 - 1. Preconstruction testing and inspection
 - a. Verify compressive strength by the unit strength or prism method.
 - 1) Compressive strength test reports for the individual masonry units shall be performed within 6 months of the start of the concrete masonry work.
 - b. Verify slump flow and visual stability index (VSI) as delivered to the project site in accordance with TMS602 Article 1.5.B.1.b.3 for self-consolidating grout.
 - c. Verify proportion of materials in premixed or preblended mortar and grout as delivered to the site.
 - d. Verify compliance with approved submittals.
 - e. Periodic inspection. Although work is indicated as periodic, all materials proposed for this project shall be tested and verified prior to start of any concrete masonry work.
 - 2. As construction begins
 - a. Verify proportions of site-prepared mortar and grout.
 - b. Verify placement of masonry units and construction of mortar joints.
 - c. Verify location of reinforcement and connectors.
 - d. Periodic inspection.

3. During Construction
 - a. Items requiring periodic inspection include:
 - 1) Verify size and location of structural elements.
 - 2) Verify size, grade, position, embedment and/or lap length of reinforcement.
 - 3) Observe the preparation of any required grout specimens, mortar specimens and/or prisms
 - 4) For every 5,000 ft² of wall surface during construction verify compressive strength of the concrete masonry construction by the unit strength or prism method.
 - b. Items requiring continuous inspection include:
 - 1) Verify type, size and location of anchors and anchorage of masonry to structural members, frames or other construction.
 - 2) Verify preparation, construction and protection of masonry during cold or hot weather.
 - 3) Verify grout space is clean prior to grout placement and observe placement of grout.
 - 4) Verify reinforcement and embedded items are properly located and supported.
 - 5) Verify proportions of site-prepared grout or proper mix design for grout provided from batch plant
 - 6) Observe the preparation of any required grout specimens, mortar specimens and/or prisms
 4. Qualifications: All concrete masonry inspections by SMSI.
- E. Post-installed Anchors
1. Where products have been evaluated using an independent testing or certification service acceptable to the jurisdiction having authority, the requirements of the evaluation or certification reported shall be incorporated into the project requirements.
 2. Material verification of bolts, nuts and washers.
 - a. Verify identification marks to conform to ASTM standards
 - b. Periodic inspection
 3. Inspection of post-installed anchors
 - a. Verify size, spacing, cover, positioning, concrete strength, expiration date, hole dimensions, hole cleaning procedures, tightening torque and condition of anchors. Confirm locations are within stated tolerances.
 - b. Verify anchors are free of form oil or other deleterious materials.
 - c. Periodic inspection: The special inspector must verify the initial installation of each type, size and installation conditions. Periodic inspections shall continue thereafter.
 - d. Continuous inspection: horizontally or upwardly inclined orientations to resist sustained tension loads.
 4. Qualifications: CCI, RCSI, ANST or SMSI

3.2 TESTING

- A. The structural inspector(s) shall be responsible for verifying that the testing requirements as specified in the appropriate material specifications are performed by an approved testing agency and are in compliance with the project requirements.

3.3 REPORTING AND COMPLIANCE PROCEDURES

- A. On the final day of each month, furnish to the Structural Engineer of Record copies of the combined progress reports of the structural inspector's observations listing all structural inspections of construction or reviews of testing performed during that month, noting all uncorrected deficiencies, and describing the corrections made both to these deficiencies and to previously reported deficiencies. Each monthly report shall be signed by all structural inspectors who performed structural inspections of construction or reviewed testing during that month, regardless of whether they reported any deficiencies. Each monthly report shall be signed by the Contractor.
- B. At completion of construction, each structural inspector shall prepare and sign a final report attesting that all work they inspected and all testing and test reports they reviewed were completed in accordance with the approved construction documents and that deficiencies identified were satisfactorily corrected. Submit a combined final report containing the signed final reports of all the structural inspectors. Sign the combined final report attesting that all final reports of structural inspectors who performed work to comply with these construction documents are contained therein, and that the Contractor has reviewed and approved all of the individual inspector's final reports.

END OF SECTION 01 45 35

Special Inspector Daily Report

Code Authority:	Date:			
Project Name/Address:	Inspection Type(s) Coverage: ☐ Continuous ☐ Periodic			
Inspections Made/Report Reference:				
Tests Made:				
List items requiring correction, corrections of previously listed items and previously listed corrected items:				
Item	Report Ref/Date	Correction	Complete	
			☐	
			☐	
List changes to approved plans authorized by architect and engineer:				
Item	Dwg. Ref.	Ref. No.	Approved by Architect/ Engineer	Comments
			☐	
			☐	
Comments:				

To the best of knowledge, work inspected was in accordance with the building department approved design drawings, specifications and applicable standards except as noted above.

Signed: _____

Date: _____

Print Full Name: _____

I.D. Number: _____

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Special Inspector Weekly Report

Code Authority:	Date:			
Project Name/Address:	Inspection Type(s) Coverage: ☐ Continuous ☐ Periodic			
Inspections Made/Report Reference:				
Tests Made:				
List items requiring correction, corrections of previously listed items and previously listed corrected items:				
Item	Report Ref/Date	Correction	Complete	
			☐	
			☐	
List changes to approved plans authorized by architect and engineer:				
Item	Dwg. Ref.	Ref. No.	Approved by Architect/ Engineer	Comments
			☐	
			☐	
Comments:				

To the best of knowledge, work inspected was in accordance with the building department approved design drawings, specifications and applicable standards except as noted above.

Signed: _____

Date: _____

Print Full Name: _____

I.D. Number: _____

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Special Inspector Final Report

To the Code Authority:

Date:

Address:

Attention:

Re: Final Project Report

Project Name:

Address:

To Whom It May Concern:

This is to certify that I performed special inspection on the following portions of the work at the above address:

Based upon my personal observation and written reports of this work, it is my judgement that the inspected work was performed, to the best of my knowledge, in accordance with the approved plans, specifications and the applicable standards.

Very truly yours,

Signed: _____

Date: _____

Print Full Name: _____

I.D. Number: _____

c: Client/Owner
Architect/Engineer

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Steel Construction Inspection Record

Structural Steel Contractor's Name:		Project Name:	
Operation Inspected	Report Date	Jobsite Inspector	Comments

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Steel Operations Inspection for Tightening High-Strength Bolts

Specified Tightening Method: ☐ Turn-of-nut ☐ Torque wrench ☐ Direct tension indicator		Date:		
Equipment is calibrated (for torque wrench or direct tension indicator) for the day for each size of bolt: ☐ Yes ☐ No If No, please explain:				
Joint Location Number	A325 or A490 Bolts	Fit-up Complete	Bolts Snug Tight	Bolts Tightened
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
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	☐	☐	☐	☐
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	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐

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Concrete Construction Inspection Record

Concrete Contractor's Name:				Project Name:			
Structural Element(s) Placed				Test Specimens Taken		Proper Curing Techniques ¹	Comments
	Reinforcing Steel in Code Compliance	Concrete Quality	Concrete Placement ²			Report Date	
				Spec. No.	Test Results		
	☐	☐	☐				
	☐	☐	☐				
	☐	☐	☐				
	☐	☐	☐				
	☐	☐	☐				
	☐	☐	☐				
	☐	☐	☐				

¹ Per ACI 318 Sec. 5-11 through 5-13.

² Per ACI 318 Chap. 4, Sec. 5.2, 5.3, 5.4, 5.8.

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Concrete Lift Inspection

Drawing Reference/Location of Lift:		Date:	
Item	Findings		
	Acceptable	NOT Acceptable	Explanation
Formwork/Excavation/Embedded Items:			
Forms are the correct size.	☐	☐	
Forms properly supported.	☐	☐	
Embedded pipe/conduit/ducts located in accordance with drawings.	☐	☐	
Reinforcing Steel:			
Grade.	☐	☐	
Size.	☐	☐	
Location.	☐	☐	
Spacing.	☐	☐	
Condition of bar.	☐	☐	
Weld inspection (when required).	☐	☐	
Supports of rebar.	☐	☐	

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Concrete Lift Inspection, continued			
Item	Findings		
	Acceptable	NOT Acceptable	Explanation
Concrete Quality:			
Required compressive strength:	☐	☐	
Proportions/mix design: - Truck ticket, batch plant ticket ready mix (ASTM 84 or ASTM 685); - Job mix (ACI318).	☐	☐	
Water content.	☐	☐	
Aggregate size.	☐	☐	
Admixtures.	☐	☐	
Concrete Placement:			
Preparation: Transport/mix equipment clean.	☐	☐	
Forms coated.	☐	☐	
Rebar is clean.	☐	☐	
Debris and ice removed.	☐	☐	
Forms/trenches dry.	☐	☐	
Placement: Samples have been taken (see Sample Log).	☐	☐	
Conveying (no separation).	☐	☐	
Water content (if water has been added).	☐	☐	
No ice in materials.	☐	☐	
Protection against cold weather (Concrete maintained above 50°).	☐	☐	

- continued on next page -

Concrete Lift Inspection, continued			
Item	Findings		
	Acceptable	NOT Acceptable	Explanation
Concrete Cure:			
Concrete temperature maintained above 50° for 7 Days (3 days for high early strength).	☐	☐	
Concrete kept moist for 7 days (3 days for high early strength).	☐	☐	
Accelerated curing, if applicable.	☐	☐	

Masonry Construction Inspection Record

Masonry Contractor's Name:			Project Name:			
Verification of Masonry Material: (ACI 530.1/ASCE 6, Sec. 2.2)			Verification of Masonry Strength:			
Structural Element(s)						Comments
	Mortar and Grout in Code Compliance	Masonry Units & Grout Quality	Masonry Units & Grout Placement ³	Masonry Protected ⁴	Anchorage Verified ⁵	
	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	

³ACI 530/ASCE 5 Chap. 8

⁴ACI 530.1 Sec. 2.3.2.2, 2.3.2.3

⁵ACI 530.1/ASCE 6, Sec. 4.2, 5.14

Masonry Inspection

Materials Inspection			
Job Number:			Date:
Drawing Reference/ Location on Building:			
Materials	Specified	Supplied	Comments
Masonry Units			
Mortar			
Grout			
Reinforcing Steel			
Joint Reinforcement			
Wire Fabric			
Masonry Strength Test			
Method: Unit Strength: Prism:			Date:
Test Results:			Required:
Operations Inspections			
Operation	Findings		
	Acceptable	NOT Acceptable	Explanation
Mixing/Proportioning.	☐	☐	
Applications.	☐	☐	
Rebar installation.	☐	☐	
Protection for hot or cold weather.	☐	☐	
Anchorage.	☐	☐	

Wood Construction Inspection Record

Wood Structural Element or Assembly to be Inspected:			Contractor Responsible for Construction of Wood Structural Assemblies on the Jobsite:	
			Special Inspector or Third Party Quality Control Agency:	
			Project Name:	
Date of Inspection	Report Date	Items Inspected	Name of Inspector	Comments

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Pile Foundations Installation and Test Record

Contractor's Name:			Project Name:	
I.D. of Pile(s) Installed Drawing Reference	Report Date	Test Load	Permanent Settlement	Comments

Pile Driving Record

Inspector:						Date:									
Site:						File Number:									
						Job Number:									
Hammer Data															
Hammer Make and Model:						Driving Cap, Anvil, Helmet, etc.:									
Stroke Rated:						Weight (lb.):									
Meas.: ¹						Remarks: ²									
Weight of Ram (lb.):															
Pike, Type³						Mandrel (if used):									
Tip Diameter (in.):			Butt Diameter (in.):			Description:									
Length (in.):			Weight ⁴ (lb.):			Length (ft.):				Weight ⁴ (lb.):					
Follower (if used):						Penetration:									
Description:						Elevation of Ground:									
Length (ft.):			Weight (lb.):			Elevation of Tip (after driving):									
Start Driving						Finish Driving									
A.M.				P.M.				A.M.				P.M.			
								Driving (mins.):							
Ft.	No. of blows	Ft.	No. of blows	Ft.	No. of blows	Ft.	No. of blows	Ft.	No. of blows	Ft.	No. of blows	Ft.	No. of blows		
0		8		16		24		32		40		48			
1		9		17		25		33		41		49			
2		10		18		26		34		42		50			
3		11		19		27		35		43		51			
4		12		20		28		36		44		52			
5		13		21		29		37		45		53			
6		14		22		30		38		46		54			
7		15		23		31		39		47		55			
Record number of blows required for each 6 inches of penetration. Note points at which stoppages occur with times of stopping and starting.															

¹Note any falling off in rated speed and stroke during driving.

²Jetting, cause and duration of delays in driving, boulders, bark, conditions of cushions, plumbness, banding, damage, driving shoe, etc.

³If wood, state kind, seasoning and treatment; if concrete, state mix and age.

⁴For wood piles determine actual weight per cubic foot of the wood by weighing a butt section.

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Record of Field Discrepancies

Description of Discrepancy	Reference Number	Date Discrepancy Reported to Engineer or Architect of Record	Date Discrepancy Reported to Responsible Contractor	Corrective Action Taken

SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

1.3 USE CHARGES

- A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to Architect, testing agencies, and authorities having jurisdiction.
- B. Water Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
- C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
 - 1. Any costs associated with increased service infrastructure shall be the responsibility of the Contractor.

1.4 INFORMATIONAL SUBMITTALS

- A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.
- B. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.
- C. Moisture-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage.

1. Describe delivery, handling, and storage provisions for materials subject to water absorption or water damage.
 2. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and replacing water-damaged Work.
 3. Indicate sequencing of work that requires water and describe plans for dealing with water from these operations. Show procedures for verifying that wet construction has dried sufficiently to permit installation of finish materials.
- D. Dust- and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust- and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Identify further options if proposed measures are later determined to be inadequate. Include the following:
1. Locations of dust-control measures at all intake HVAC equipment and louvers
 2. Waste handling procedures.
 3. Other dust-control measures.

1.5 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.

2.2 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Locate facilities, as approved by Owner, where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
1. Locate facilities off site.

- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 SUPPORT FACILITIES INSTALLATION

- A. Traffic Controls: Comply with requirements of authorities having jurisdiction.
 - 1. Protect existing site improvements to remain including curbs, pavement, and utilities.
 - 2. Maintain access for fire-fighting equipment and access to fire hydrants.
 - 3. Contractor to restore all damaged to site, including irrigation system, lawns, planting, walks and pavement, and other at grade items caused by construction activities.
- B. Parking:
 - 1. Contractor may use a limited area of the existing parking areas for construction personnel.
 - a. Do not block existing service drives.
- C. Project Signs: Unauthorized signs are not permitted.
 - 1. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.
 - a. Provide temporary, directional signs for construction personnel and visitors.
 - 2. Maintain and touchup signs so they are legible at all times.
- D. Storage Facilities: No at-grade storage facilities will be permitted due to the limited site conditions.
- E. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction.
 - 1. Remove construction debris and waste on a daily basis.
- F. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
 - 1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.
 - 2. Coordinate location of on-loading/off-loading activities with Owner.

3.3 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.
- B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
- C. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- D. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.
- E. Maintain secured entries/exits. Propping of doors is prohibited.
- F. Protect air-handling equipment.
- G. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.
 - 1. Prohibit smoking in construction areas.
 - 2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
- H. Background Checks: Contractor's workforce shall be subject to a favorable background checks prior to work on property.
- I. Security: comply with security procedures enforced at each facility. Variance to requirements must receive prior approval with the Owner and each site security operation.

3.4 MOISTURE AND MOLD CONTROL

- A. Contractor's Moisture-Protection Plan: Avoid trapping water in finished work. Document visible signs of mold that may appear during construction.
- B. Exposed Construction Phase: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:
 - 1. Protect porous materials from water damage.
 - 2. Protect stored and installed material from flowing or standing water.
 - 3. Keep porous and organic materials from coming into prolonged contact with concrete.
 - 4. Remove standing water from decks.
 - 5. Keep deck openings covered or dammed.

3.5 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
 - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- C. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 - 1. Materials and facilities that constitute temporary facilities are property of Contractor.
 - 2. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Division 01 Section 01 77 00 "Closeout Procedures."

END OF SECTION 01 50 00

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SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes:
 - 1. Products.
 - 2. Transportation and handling.
 - 3. Storage and protection.
 - 4. Product options.
 - 5. Substitutions.

1.3 PRODUCTS

- A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work. Does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work.
- B. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.
- C. Provide interchangeable components of the same manufacturer, for similar components.

1.4 TRANSPORTATION AND HANDLING

- A. Transport and handle products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

1.5 STORAGE AND PROTECTION

- A. Store and protect products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather-tight, climate-controlled enclosures.
- B. No on-site storage facilities will be permitted.
- C. Properly distribute all material which is on the roof to provide for a uniform distribution of load. DO not load roof condition beyond maximum design load.
- D. Provide ventilation to avoid condensation.
- E. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- F. Arrange storage of products to permit access for inspection. Periodically inspect to assure products are undamaged and are maintained under specified conditions.

1.6 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards or description.
- B. Products Specified by naming one or more Manufacturers: Products of manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products specified by naming one or more manufacturers with a provision for substitutions: Submit a request for substitution for any manufacturer not named.

1.7 SUBSTITUTIONS

- A. Instructions to Bidders specify time restrictions for submitting requests for substitutions during the bidding period to requirements specified in this Section.
- B. Substitutions may be considered when a product becomes unavailable through no fault of the Contractor.
- C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- D. A request constitutes a representation that the bidder:
 - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
 - 2. Will provide the same warranty for the substitution as for the specified product.

3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to the Owner.
 4. Waive claims for additional costs or time extension which may subsequently become apparent.
 5. Will reimburse Owner for review or redesign services associated with re-approval by authorities.
- E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 60 00

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SECTION 01 62 00 - PRODUCT OPTIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling requests for substitutions made after award of the Contract.
- B. The Contractor's Construction Schedule and the Schedule of Submittals are included under Section 01 3 00 "Submittals."
- C. Standards: Refer to Section 01 42 00 "References" for applicability of industry standards to products specified.
- D. Procedural requirements governing the Contractor's selection of products and product options are included under Section 01 60 00 "Product Requirements."

1.3 DEFINITIONS

- A. Definitions used in this Article are not intended to change or modify the meaning of other terms used in the Contract Documents.
- B. Substitutions: Architect will consider requests for Substitutions if submitted 10 calendar days prior to the Bid Date. No requests will be accepted or reviewed after this time.
- C. Substitutions after the Bid Date may be considered only when a product becomes unavailable through no fault of the Contractor.
- D. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- E. A request constitutes a representation that the Bidder:
 - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
 - 2. Will provide the same warranty for the Substitution as for the specified product.
 - 3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.

4. Waives claims for additional costs or time extension which may subsequently become apparent.
- F. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals.
- G. Substitution Submittal Procedure:
1. Submit Request for Substitution for consideration to the Architect. Limit each request to one proposed Substitution.
 2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer. General catalogs or manuals are not acceptable. Specific information on model, type, and series of substitute product is required. Include specified material data sheet with which submitter is requesting comparison review.
 3. The Architect will notify Bidder in the form of an addendum item of decision to accept request. If item is not approved by addendum, item it is not acceptable.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

- A. Conditions: The Contractor's substitution request will be received and considered by the Architect when one or more of the following conditions are satisfied, as determined by the Architect; otherwise requests will be returned without action except to record non-compliance with these requirements.
1. Extensive revisions to Contract Documents are not required.
 2. Proposed changes are in keeping with the general intent of Contract Documents.
 3. The request is timely, fully documented and properly submitted.
 4. The request is directly related to an "or equal" clause or similar language in the Contract Documents.
 5. The specified product or method of construction cannot be provided within Contract Time. The request will not be considered if the product or method cannot be provided as a result of failure to pursue the Work promptly or coordinate activities properly.
 6. The specified product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved.
 7. A substantial advantage is offered the Owner, in terms of cost, time, energy conservation or other considerations of merit, after deducting off-setting responsibilities the Owner may be required to bear. Additional responsibilities for the Owner may include additional compensation to the Architect for redesign and evaluation services, increased cost of other construction by the Owner or separate Contractors, and similar considerations.
 8. The specified product or method of construction cannot be provided in a manner which is compatible with other materials, and there the Contractor certifies that the substitution will overcome the incompatibility.

9. The specified product or method of construction cannot be coordinated with other materials, and where the Contractor certifies that he proposed substitution can be coordinated.
 10. The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed substitution provide the required warranty.
- B. The Contractor's submittal and Architect's acceptance of Shop Drawings, Product Data or Samples that relate to construction activities not complying with the contract Documents does not constitute an acceptable or valid request for substitution, nor does it constitute approval.
- C. Refer to the Contractor's Substitution Request form for submission of data found at the end of this Section, Exhibit 01 62 00-A.
- D. Refer to Architect's Response to Contractor's Substitution Request for Architect's response found at the end of the Section, Exhibit 01 62 00-B.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 62 00

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CONTRACTOR'S SUBSTITUTION REQUEST FORM

Project Name: _____

Project No: _____

Owner: _____

Architect: _____

Contractor: _____

CONTRACTOR'S REQUEST WITH SUPPORTING DATA:

Substitution Request No.: _____

Date of Issuance: _____

We request your consideration of the substitution of following proposed product instead of the Specified Product:

Section No. _____ Paragraph No. _____ Specified _____ Product _____

Proposed Product:

- ☐ Product Data for proposed product is attached, including product description, reference standards, performance and test data.
- ☐ Sample(s) is(are) attached.
- ☐ Sample(s) will be sent if requested by the Architect.

Itemized comparison of proposed product with Specified Product:

	Specified Product	Proposed Product
Name/Brand	_____	_____
Catalog No.	_____	_____
Manufacturer	_____	_____

CONTRACTOR'S SUBSTITUTION REQUEST FORM
(Continued)

Significant	_____	_____
Qualities	_____	_____
Unit Cost	\$ _____ per _____	\$ _____ per _____
	☐ Material Only	☐ Material and Installation

Proposed change to the Contract Sum:

Credit to the Owner: <\$ _____>
Additional Cost to the Owner: <\$ _____>

The Contract Time: Will be [Increased] [Decreased] by _____ calendar days.

Describe what effect this substitution will have on the other parts of the Work or on other contracts.

CONTRACTOR'S CERTIFICATION OF CONFORMANCE OF THE SUBSTITUTION OF THIS PROPOSED PRODUCT TO CONTRACT REQUIREMENTS:

We have investigated the substitution of this proposed product and:

1. Believe that it is equal or superior in all respects to the Specified Product, except as fully described in the comparison above;
2. Will provide the warranty as required by the General Conditions;
3. Will provide the special warranty, if any, as specified;
4. Have included all cost data and cost implications;
5. Will pay re-design and special inspection costs caused by the substitution this proposed product;
6. Will pay additional costs to other contractors caused by the substitution of this proposed product;
7. Will coordinate the incorporation of the substitution of this proposed product into the Work;
8. Will modify, or cause to be modified, other parts of the Work as may be required, or directed, to make all parts of the Work complete; and
9. Waive future claims for added costs to this Contractor caused by the substitution of this proposed product.

Signature _____ Date _____

Name (Typed) _____ Phone _____

ARCHITECT'S RESPONSE TO CONTRACTOR'S SUBSTITUTION REQUEST FORM

Project Name:

Substitution Request No. _____ Contractor's Date of Issuance _____

ARCHITECT'S REVIEW AND ACTION:

☐ Sign Contractor's Statement of Conformance. Resubmit.

☐ Provide additional information. Resubmit

☐ Substitution of this proposed product is acceptable with the following conditions:

☐ A change order will be issued to adjust the Contract.

Signature _____ Date _____

END OF EXHIBIT 01 62 00B

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SECTION 01 73 25 – CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General, Supplementary Conditions, and other Division 01 Specification sections, apply to this section.

1.2 SUMMARY

- A. This section specifies administrative and procedural requirements for complete cutting and patching.
- B. Refer to other Sections for specific requirements and limitations applicable to cutting and patching individual parts of the work.
 - 1. Requirements of this Section apply to Contractor' work force.

1.3 DEFINITIONS

- A. Cutting: Removal of existing construction necessary to permit installation or performance of other work.
- B. Patching: Fitting and repair work required to restore surfaces to original condition after installation of other work.

1.4 SUBMITTALS

- A. Submit written request (72) working hours in advance to the Architect/Engineer before cutting or alteration which affects the following:
 - 1. Structural integrity of any element of project.
 - 2. Integrity of weather-exposed or moisture-resistant element.
 - 3. Efficiency, maintenance, or safety of any operational element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of separate contractor.
- B. Describe the extent of cutting and patching required and how it is to be performed; indicate why it cannot be avoided.

- C. Describe anticipated results in terms of changes to existing construction; include changes to structural elements and operating components as well as changes in the building's appearance and other significant visual elements.
- D. List products to be used and firms or entities that will perform work.
- E. Indicate dates when cutting and patching is to be performed.
- F. List utilities that will be disturbed or affected, including those that will be relocated and those that will be temporarily out-of-service. Indicate how long service will be disrupted.
- G. Where cutting and patching involves addition of reinforcement to structural elements, submit details and engineering calculations to show how reinforcement is integrated with the original structure.

1.5 QUALITY ASSURANCE

- A. Requirements for structural work: Do not cut and patch structural elements in a manner that would reduce their load-carrying, or deflection resistive capacity.
- B. Obtain approval of the Architect/Engineer before cutting and patching the following structural elements:
 - 1. Foundation construction.
 - 2. Bearing and retaining walls.
 - 3. Structural concrete.
 - 4. Structural steel.
 - 5. Lintels.
 - 6. Structural decking.
 - 7. Miscellaneous structural metals.
 - 8. Equipment supports.
 - 9. Piping, ductwork, vessels, and equipment.
- C. Operational and Safety Limitations: Do not cut and patch operating elements or safety related components in a manner that would result in reducing their capacity to perform as intended, or result in increased maintenance, or decreased operational life or safety.
- D. Obtain approval of the Architect/Engineer before cutting and patching the following operating elements or safety-related systems:
 - 1. Shoring, bracing, and sheeting.
 - 2. Primary operational systems and equipment.
 - 3. Air or smoke barriers.
 - 4. Water, moisture, or vapor barriers.
 - 5. Membranes and flashings.
 - 6. Fire protection systems.
 - 7. Noise and vibration control elements and systems.

8. Control systems.
 9. Communication systems.
 10. Conveying systems.
 11. Electrical wiring systems.
- E. Visual Requirements: Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in the Architect's opinion, reduce the building's aesthetic qualities, or result in visual evidence of cutting and patching. Remove and replace work cut and patched in a visually unsatisfactory manner.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Use materials which are identical to existing materials. If identical materials are not available or cannot be used where exposed surfaces are involved, which use materials which match existing adjacent surfaces to the fullest extent possible with regard to visual effect. The architect must give his approval to these materials. Use materials whose installed performance will equal or surpass that of existing materials.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Before cutting existing surfaces, examine surfaces to be cut and patched and conditions under which cutting, and patching is to be performed. Take corrective action before proceeding, if unsafe or unsatisfactory conditions are encountered.
- B. Before proceeding, meet at the site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.
- C. Beginning of cutting or patching means acceptance of existing conditions.

3.2 PREPARATION

- A. Temporary Support: Provide temporary support of work to be cut.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Project which might be exposed during cutting and patching operations.
- C. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

- D. Take all precautions necessary to avoid cutting existing pipe, conduit or ductwork serving the building, but scheduled to be removed or relocated until provisions have been made to bypass them.

3.3 PERFORMANCE

- A. General: Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.
 - 1. Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.
- B. Cutting: Cut existing construction using methods least likely to damage elements to be retained or adjoining construction. Where possible review proposed procedure with the original installer; comply with the original installer's recommendations.
 - 1. In general, where cutting is required use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slot neatly to size required with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Cut through concrete and masonry using a cutting machine such as a carborundum saw or diamond core drill.
 - 4. By-pass utility services such as pipe or conduit, before cutting, where services are shown or required to be removed, relocated, or abandoned. Cut-off pipe or conduit in walls or partitions to be removed. Cap, valve or plug and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after by-passing and cutting.
 - 5. Remove unsuitable material not marked for salvage, such as rotted wood, corroded metals, and deteriorated masonry and concrete. Replace material as specified including finished work.
- C. Patching: Patch with durable seams that are as invisible as possible. Comply with specified tolerances.
 - 1. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
 - 2. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - 3. Where removal of walls or partitions extends one finished area into another, patch and repair floor and wall surfaces in the new space to provide an even surface of uniform color and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

4. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken area containing the patch, after the patched area has received primer and second coat.
5. Employ appropriate trade contractor to perform cutting for weather exposed and moisture resistant elements, and sight-exposed surfaces.

3.4 ADJUSTMENTS

- A. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
- B. Where a change of plane of 1/4 inch or more occurs, submit recommendation for providing a smooth transition for Architect/Engineer review.
- C. Fit work at penetrations of surfaces.

3.5 CLEANING

- A. Thoroughly clean areas and spaces where cutting and patching is performed or used as access. Remove completely paint, mortar, oils, putty, and items of similar nature. Thoroughly clean piping, conduit and similar features before painting or other finishing is applied. Restore damaged pipe covering to its original condition.

END OF SECTION 01 73 25

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SECTION 01 77 00 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Closeout requirements for specific construction activities are also included in the appropriate Sections

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout including, but not limited to, the following:
 - 1. Inspection procedures.
 - 2. Project record document submittal.
 - 3. Submittal of warranties.
 - 4. Final cleaning.
- B. Related Requirements:
 - 1. Section 01 78 23 "Operation and Maintenance Data" for additional operation and maintenance manual requirements.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request.
 - 1. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete.
 - a. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.
 - b. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.
 - 2. Advise the Owner of pending insurance changeover requirements.

3. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications, and similar documents.
4. Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
5. Submit record drawings, maintenance manuals, and similar final record information.
6. Deliver tools, spare parts, extra stock, and similar items.
7. Complete testing of systems and instruction of the Owner's operation and maintenance personnel. Discontinue and remove temporary facilities from the site, along with mockups, construction tools, and similar elements.
8. Complete final cleanup requirements, including touchup painting.
9. Touch up and otherwise repair and restore marred, exposed finishes.

B. Inspection Procedures: On receipt of a request for inspection, the Architect will either proceed with inspection or advise the Contractor of unfilled requirements. The Architect will prepare the Certificate of Substantial Completion following inspection or advise the Contractor of construction that must be completed or corrected before the certificate will be issued.

1. The Architect will repeat inspection when requested and assured that the Work is substantially complete.
2. Results of the completed inspection will form the basis of requirements for final acceptance.

C. Certificate of Substantial Completion: Refer to Exhibit 01 77 00 A, AIA Document G704-2000 for Certificate of Substantial Completion.

1.4 FINAL ACCEPTANCE

A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.

1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include insurance certificates for products and completed operations where required.
2. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
3. Submit a certified copy of the Architect's final inspection list of items to be completed or corrected, endorsed and dated by the Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance and shall be endorsed and dated by the Architect.
4. Submit consent of surety to final payment.
5. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

B. Reinspection Procedure: The Architect will reinspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except for items whose completion is delayed under circumstances acceptable to the Architect.

1. Upon completion of reinspection, the Architect will prepare a certificate of final acceptance. If the Work is incomplete, the Architect will advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
2. If necessary, reinspection will be repeated.

1.5 RECORD DOCUMENT SUBMITTALS

- A. General: Do not use record documents for construction purposes. Protect record documents from deterioration and loss in a secure, fire-resistant location. Provide access to record documents for the Architect's reference during normal working hours.
 1. One set of Record Documents shall be provided to the Owner and one copy shall be provided to the Architect.
 2. Refer to Section 01 78 39, Project Record Documents.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 CLOSEOUT PROCEDURES

- A. Operation and Maintenance Instructions: Arrange for each Installer of equipment that requires regular maintenance to meet with the Owner's personnel to provide instruction in proper operation and maintenance. Provide instruction by manufacturer's representatives if installers are not experienced in operation and maintenance procedures. Include a detailed review of the following items:
 1. Maintenance manuals.
 2. Record documents.
 3. Spare parts and materials.
 4. Identification systems.
 5. Hazards.
 6. Cleaning.
 7. Warranties and bonds.
 8. Tools.

3.2 FINAL CLEANING

- A. General: The General Conditions require general cleaning during construction.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion.
 - a. Remove labels that are not permanent labels.
 - b. Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films, and similar foreign substances.
 - c. Clean the site, including landscape development areas, of rubbish, litter, and other foreign substances. Remove stains, spills, and other foreign deposits from paved areas.
- C. Removal of Protection: Remove temporary protection and facilities installed for protection of the Work during construction.
- D. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from the site and dispose of lawfully.
 1. Where extra materials of value remain after completion of associated Work, they become the Owner's property. Dispose of these materials as directed by the Owner.

END OF SECTION 01 77 00

* * SAMPLE * *

AIA Document G704™ - 2000

Certificate of Substantial Completion

PROJECT:

(Name and address)

Mishawaka-Penn-Harris Public Library
Capital Improvements - 2020 GOB
Design Release 2020-1: Bid Package 1
Roof Replacement - Mishawaka Library

PROJECT NUMBER: 2161-4766-90**CONTRACT FOR:** General Construction**CONTRACT DATE:**OWNER: ☐

ARCHITECT: 0

CONTRACTOR: 0

FIELD: ☐OTHER: ☐**TO OWNER:**

(Name and address)

TO CONTRACTOR:

(Name and address)

PROJECT OR PORTION OF THE PROJECT DESIGNATED FOR PARTIAL OCCUPANCY OR USE SHALL INCLUDE:

The Work performed under this Contract has been reviewed and found, to the Architect's best knowledge information and belief, to be substantially complete. Substantial Completion is the stage in the progress of the Work when the Work or designated portion is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The date of Substantial Completion of the Project or portion designated above is the date of issuance established by this Certificate, which is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below:

Warranty**Date of Commencement****ARCHITECT****BY****DATE OF ISSUANCE**

A list of items to be completed or corrected is attached hereto. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Unless otherwise agreed to in writing, the date of commencement of warranties for items on the attached list will be the date of issuance of the final Certificate of Payment or the date of final payment.

Cost estimate of Work that is incomplete or defective: \$ 0.00

The Contractor will complete or correct the Work on the list of items attached hereto within Zero (0) days from the above date of Substantial Completion.

CONTRACTOR**BY****DATE**

The Owner accepts the Work or designated portion as substantially complete and will assume full possession at (time) on (date).

OWNER**BY****DATE**

The responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance shall be as follows:

(Note: Owner's and Contractor's legal and insurance counsel should determine and review insurance requirements and coverage.)

END OF EXHIBIT 01 77 00 A

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SECTION 01 78 23 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Operation and maintenance documentation directory manuals.
 - 2. Maintenance manuals for the care and maintenance of products, materials, and finishes.
- B. Related Requirements:
 - 1. Section 01 33 00 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.
 - 2. Section 01 77 00 "Closeout Procedures" for submitting operation and maintenance manuals.
 - 3. Section 01 78 39 "Project Record Documents" for preparing Record Drawings for operation and maintenance manuals.
 - 4. Divisions 2 through 33 Sections for specific operation and maintenance manual requirements for products in those Sections.

1.3 DEFINITIONS

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 SUBMITTALS

- A. Submittal:
 - 1. Submit (1) draft copy of manual in electronic format for preliminary review and comment by Architect at least 15 days before final inspection.
 - 2. Upon Architect approval of draft submittal. Provide (1) hard copy and (1) electronic version of Manual/documents.

1.5 COORDINATION

- A. Where operation and maintenance documentation include information on installations by more than one factory-authorized service representative, assemble and coordinate information furnished by representatives and prepare manuals.

PART 2 - PRODUCTS

2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

- A. Organization: Include a section in the directory for each of the following:
 - 1. List of documents.
 - 2. List of systems.
 - 3. List of equipment.
 - 4. Table of contents.
- B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
- C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
- D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.

2.2 MANUALS, GENERAL

- A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
 - 1. Title page.
 - 2. Table of contents.
 - 3. Manual contents.
- B. Title Page: Enclose title page in transparent plastic sleeve. Include the following information:
 - 1. Subject matter included in manual.
 - 2. Name and address of Project.
 - 3. Name and address of Owner.
 - 4. Date of submittal.
 - 5. Name, address, and telephone number of Contractor.
 - 6. Name and address of Architect.
 - 7. Cross-reference to related systems in other operation and maintenance manuals.

- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
 - 1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
 - 1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
 - a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary, to provide essential information for proper operation or maintenance of equipment or system.
 - b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.
 - 2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
 - 3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software diskettes for computerized electronic equipment.
 - 4. Supplementary Text: Prepared on 8-1/2-by-11-inch, 20-lb/sq. ft. white bond paper.
 - 5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
 - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.3 PRODUCT MAINTENANCE MANUAL

- A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

- B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C. Product Information: Include the following, as applicable:
 - 1. Product name and model number.
 - 2. Manufacturer's name.
 - 3. Color, pattern, and texture.
 - 4. Material and chemical composition.
 - 5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and the following:
 - 1. Inspection procedures.
 - 2. Types of cleaning agents to be used and methods of cleaning.
 - 3. List of cleaning agents and methods of cleaning detrimental to product.
 - 4. Schedule for routine cleaning and maintenance.
 - 5. Repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 - 1. Include procedures to follow and required notifications for warranty claims.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

- A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals.
- B. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- C. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
- D. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in Record Drawings to ensure correct illustration of completed installation.
1. Do not use original Project Record Documents as part of operation and maintenance manuals.
 2. Comply with requirements of newly prepared Record Drawings in Division 1 Section 01 78 39 "Project Record Documents."
- E. Comply with Section 01 77 00 "Closeout Procedures" for the schedule for submitting operation and maintenance documentation.

END OF SECTION 01 78 23

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SECTION 01 78 36 - WARRANTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for warranties required by the Contract Documents, including manufacturers' standard warranties on products and special warranties.
 - 1. Refer to the General Conditions and Supplementary Conditions for terms of the Contractor's period for correction of the Work.
- B. Related Requirements:
 - 1. Section 01 77 00 "Closeout Procedures" specifies contract closeout procedures.
 - 2. Divisions 02 through 33 Sections for specific requirements for warranties on products and installations specified to be warranted.
 - 3. Certifications and other commitments and agreements for continuing services to Owner are specified elsewhere in the Contract Documents.
- C. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products. Manufacturer's disclaimers and limitations on product warranties do not relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

1.3 DEFINITIONS

- A. Standard product warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner.

1.4 WARRANTY REQUIREMENTS

- A. Related Damages and Losses: When correcting failed or damaged warranted construction, remove and replace construction that has been damaged as a result of such failure or must be removed and replaced to provide access for correction of warranted construction.
- B. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
- C. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of the Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.
- D. Owner's Recourse: Expressed warranties made to the Owner are in addition to implied warranties and shall not limit the duties, obligations, rights, and remedies otherwise available under the law. Expressed warranty periods shall not be interpreted as limitations on the time in which the Owner can enforce such other duties, obligations, rights, or remedies.
 - 1. Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
- E. Where the Contract Documents require a special warranty, or similar commitment on the Work or part of the Work, the Owner reserves the right to refuse to accept the Work, until the Contractor presents evidence that entities required to countersign such commitments are willing to do so.

1.5 SUBMITTALS

- A. Submit written warranties to the Architect prior to the date certified for Substantial Completion. If the Architect's Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the Work, or a designated portion of the Work, submit written warranties upon request of the Architect.
 - 1. When a designated portion of the Work is completed and occupied or used by the Owner, by separate agreement with the Contractor during the construction period, submit properly executed warranties to the Architect within 15 days of completion of that designated portion of the Work.
- B. Contractor and a subcontractor, supplier, or manufacturer to execute warranty, prepare a written document that contains appropriate terms and identification, ready for execution by

the required parties. Submit a draft to the Owner, through the Architect, for approval prior to final execution.

- C. Prepare a written document ready for execution by the Contractor, or by the Contractor, subcontractor, supplier, or manufacturer. Submit a draft to the Owner, through the Architect, for approval prior to final execution.
 - 1. Refer to Divisions 02 through 33 Sections for specific content requirements and particular requirements for submitting special warranties.
- D. Form of Submittal:
 - 1. Prior to Substantial Completion compile one (1) draft copy of each required warranty properly executed by the Contractor, or by the Contractor, subcontractor, supplier, or manufacturer for Architect's review and comment Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual.
 - 2. At Substantial Completion compile one (1) hard copy and (1) electronic version of each required warranty properly executed by the Contractor, or by the Contractor, subcontractor, supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 LIST OF WARRANTIES

- A. Submit a summarized list of all project warranties, including durations of each warranty. Submit list at the time of Substantial Completion.

END OF SECTION 01 78 36

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SECTION 01 78 39 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:
 - 1. As-Built Drawings.
 - 2. Record Product Data.
- B. Related Requirements:
 - 1. Section 01 77 00 "Closeout Procedures" for general closeout procedures.
 - 2. Divisions 02 through 33 Sections for specific requirements for Project Record Documents of products in those Sections.

1.3 SUBMITTALS

- A. As-Built Drawings: Comply with the following:
 - 1. Submit As-Built Drawings as follows:
 - a. Final Submittal: Submit one (1) hard copy and one (1) electronic copy (pdf format) of marked-up Record Drawings to the Architect for review. Architect will transmit set to the Owner.
- B. Record Product Data: Submit two copies of each Product Data submittal.
 - 1. Where Record Product Data is required as part of operation and maintenance manuals, submit marked-up Product Data as an insert in the manual instead of submittal as Record Product Data.
- C. Provide an electronic copy (pdf format) of as-built drawings and specifications, final reviewed shop drawings, ASIs, PR's, CD's, construction photos, and other pertinent job-related documents. Submit within a portable readable disk, (2) copies. Organize documents in a sub-directory according to information.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one original set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.
 - 1. Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an understandable drawing technique.
 - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 - 2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Actual equipment locations.
 - d. Changes made by Change Order or Allowance Adjustment.
 - e. Changes made following Architect's written orders.
 - f. Details not on the original Contract Drawings.
 - g. Field records for variable and concealed conditions.
 - h. Record information on the Work that is shown only schematically.
 - 3. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
 - 4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
 - 5. Mark important additional information that was either shown schematically or omitted from original Drawings.
 - 6. Note Allowance Adjustment numbers, Architects Supplemental Instructions, Proposal Request, Change Order numbers, and similar identification, where applicable.
 - 7. Where revisions correlate with reference documents, indicate the document name and date issued.

2.2 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record the name of the manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
5. Note related Change Orders, Allowance Adjustments, Record Drawings, and Product Data where applicable.
6. Where revisions correlate with reference documents, indicate the document name and date issued.

2.3 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 - a. If possible, a Change Order proposal should include resubmitting updated Product Data. This eliminates the need to mark up the previous submittal.
 - b. Insert requirements for Record Samples if needed. See Evaluations.

2.4 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.
- B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and

in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.

END OF SECTION 01 78 39

SECTION 02 41 19 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of building or structure.
2. Demolition and removal of selected site elements.
3. Salvage of existing items to be reused or recycled.

B. Related Requirements:

1. Section 01 10 00 "Summary" for restrictions on use of the premises, Owner-occupancy requirements, and phasing requirements.
2. Section 01 73 25 "Cutting and Patching" for cutting and patching procedures.

1.2 DEFINITIONS

- A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.
- B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner ready for reuse.
- C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.
- E. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

1.3 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.4 PREINSTALLATION MEETINGS

- A. Predemolition Conference: Conduct conference at Project site.

1. Inspect and discuss condition of construction to be selectively demolished.
2. Review structural load limitations of existing structure.
3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
5. Review areas where existing construction is to remain and requires protection.

1.5 INFORMATIONAL SUBMITTALS

- A. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control, and for noise control. Indicate proposed locations and construction of barriers.
- B. Schedule of Selective Demolition Activities: Indicate the following:
 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 3. Coordination for shutoff, capping, and continuation of utility services.
 4. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- C. Predemolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces, that might be misconstrued as damage caused by salvage and demolition operations. Submit before Work begins.

1.6 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
 1. Before selective demolition, Owner will remove the following items:
 - a. Vehicles and Stored items nearby the site and access to the site.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: Often present in buildings and structures to be selectively demolished. No report on the presence of hazardous materials is on file for review. Contractor to hire

credentialed examiner and lab to conduct assessment of work area to become aware of locations where hazardous materials are present.

1. Hazardous material remediation is not specified elsewhere in the Contract Documents.
2. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.

E. Storage or sale of removed items or materials on-site is not permitted.

F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1.7 COORDINATION

A. Arrange selective demolition schedule so as not to interfere with Owner's operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSP A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.
- C. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.
 1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

- D. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video.

- 1. Inventory and record the condition of items to be removed and salvaged.

3.2 PREPARATION

- A. Contractor shall remove and properly dispose of all asbestos containing materials prior to the start of any selective demolition and/or renovation activity in accordance with the requirements set forth in Specification Section 02 82 13.
- B. Contractor shall remove and properly dispose of and/or recycle all Universal Waste materials. Contractor shall perform all Work in accordance with all local, state, and federal regulations including but not limited to Michigan Rule 228 of part 111, and 40 CFR 273. A copy of the Asbestos and Hazardous Materials Survey Report is included as part of Section 02 82 13.

3.3 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - 1. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 - 2. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated on Drawings to be removed.
 - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - b. Equipment to Be Removed: Disconnect and cap services and remove equipment.
 - c. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
 - d. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.

3.4 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
 5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Section 01 50 00 "Temporary Facilities and Controls."
- B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
1. Strengthen or add new supports when required during progress of selective demolition.
- C. Remove temporary barricades and protections where hazards no longer exist.

3.5 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 5. Maintain fire watch during and for at least one hour hours after flame-cutting operations.
 6. Maintain adequate ventilation when using cutting torches.
 7. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 8. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.

9. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 10. Dispose of demolished items and materials promptly. Comply with requirements in Section 01 74 19 "Construction Waste Management and Disposal."
- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Removed and Salvaged Items:
1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers.
 3. Store items in a secure area until delivery to Owner.
 4. Transport items to Owner's storage area designated by Owner.
 5. Protect items from damage during transport and storage.
- D. Removed and Reinstalled Items:
1. Clean and repair items to functional condition adequate for intended reuse.
 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
 3. Protect items from damage during transport and storage.
 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition, cleaned, and reinstalled in their original locations after selective demolition operations are complete.

3.6 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Concrete: Demolish in small sections. Using power-driven saw, cut concrete to a depth of at least 3/4 inch at junctures with construction to remain. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete. Neatly trim openings to dimensions indicated.
- B. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, and then remove masonry between saw cuts.
- C. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, and then break up and remove.
- D. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI's "Recommended Work Practices for the Removal of Resilient Floor Coverings." Do not use methods requiring solvent-based adhesive strippers.

- E. Roofing/Atrium: Remove no more existing atrium glazing than what can be covered in one day by new roofing in order for the building interior to remain watertight and weathertight. See Section 07 41 00 "Metal Roofing System2" for reroofing requirements for new roofingsystem.

- 1. Remove existing atrium glazing and accessories as indicated .

3.7 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site and recycle or dispose of them according to Section 01 74 19 "Construction Waste Management and Disposal."

- 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

- B. Burning: Do not burn demolished materials.

3.8 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 02 41 19

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SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Cast-in-place concrete, including concrete materials, mixture design, placement procedures, and finishes.
- B. Related Requirements:
 - 1. Section 03 10 00 "Concrete Forming and Accessories" for form-facing materials.
 - 2. Section 03 20 00 "Concrete Reinforcing" for steel reinforcing bars and welded-wire reinforcement.

1.3 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash, slag cement, other pozzolans, and silica fume; materials subject to compliance with requirements.
- B. Water/Cement Ratio (w/cm): The ratio by weight of water to cementitious materials.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:
 - a. Contractor's superintendent.
 - b. Independent testing agency responsible for concrete design mixtures.
 - c. Ready-mix concrete manufacturer.
 - d. Concrete Subcontractor.
 - e. Special concrete finish Subcontractor.
 - 2. Review the following:

- a. Special inspection and testing and inspecting agency procedures for field quality control.
- b. Construction joints, control joints, isolation joints, and joint-filler strips.
- c. Semirigid joint fillers.
- d. Vapor-retarder installation.
- e. Anchor rod and anchorage device installation tolerances.
- f. Cold and hot weather concreting procedures.
- g. Concrete finishes and finishing.
- h. Curing procedures.
- i. Forms and form-removal limitations.
- j. Methods for achieving specified floor and slab flatness and levelness.
- k. Floor and slab flatness and levelness measurements.
- l. Concrete repair procedures.
- m. Concrete protection.

1.5 ACTION SUBMITTALS

A. Product Data: For each of the following.

1. Curing materials.
 - a. Include documentation from color pigment manufacturer, indicating that proposed methods of curing are recommended by color pigment manufacturer.
2. Joint fillers.
3. Repair materials.

B. Design Mixtures: For each concrete mixture, include the following:

1. Mixture identification.
2. Minimum 28-day compressive strength.
3. Relevant test data, no more than 6 months old, matching each mix design to be utilized, substantiating the stated mix design parameters.
4. Durability exposure class.
5. Maximum w/cm.
6. Calculated equilibrium unit weight, for lightweight concrete.
7. Slump limit.
8. Air content.
9. Nominal maximum aggregate size.
10. Intended placement method.
11. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

C. Shop Drawings:

1. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.

- a. Location of construction joints is subject to approval of the Architect.
- D. Concrete Schedule: For each location of each Class of concrete indicated in "Concrete Mixtures" Article, including the following:
 - 1. Concrete Class designation.
 - 2. Location within Project.
 - 3. Exposure Class designation.
 - 4. Formed Surface Finish designation and final finish.
 - 5. Final finish for floors.
 - 6. Curing process.
 - 7. Floor treatment if any.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For the following:
 - 1. Installer: Include copies of applicable ACI certificates.
 - 2. Ready-mixed concrete manufacturer.
 - 3. Testing agency: Include copies of applicable ACI certificates.
- B. Preconstruction Test Reports: For each mix design for each class of concrete no older than 6 months utilizing materials that will be used for batching of concrete for this project.
- C. Minutes of preinstallation conference.
- D. Structural Inspection Quality Assurance Plan and written statement of responsibility.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who employs Project personnel qualified as a ACI-certified Flatwork Technician and Finisher and a supervisor who is a certified ACI Flatwork Concrete Finisher/Technician or an ACI Concrete Flatwork Technician.
- B. Ready-Mixed Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C94/C94M requirements for production facilities and equipment.
 - 1. Manufacturer certified in accordance with NRMCA's "Certification of Ready Mixed Concrete Production Facilities."

1.8 PRECONSTRUCTION TESTING

- A. Preconstruction Testing Service: Engage a qualified testing agency to perform preconstruction testing on each concrete mixture.

1. Include the following information in each test report:

- a. Admixture dosage rates.
- b. Slump.
- c. Air content.
- d. Seven-day compressive strength.
- e. 28-day compressive strength.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Comply with ASTM C94/C94M and ACI 301.

1.10 FIELD CONDITIONS

- A. Cold-Weather Placement: Comply with ACI 301 and ACI 306.1 and as follows.

- 1. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
- 2. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
- 3. Do not use frozen materials or materials containing ice or snow.
- 4. Do not place concrete in contact with surfaces less than 35 deg F, other than reinforcing steel.
- 5. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.

- B. Hot-Weather Placement: Comply with ACI 301 and ACI 305.1, and as follows:

- 1. Maintain concrete temperature at time of discharge to not exceed 95 deg F.
- 2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

- A. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:
- 1. ACI 301.

2.2 CONCRETE MATERIALS

A. Source Limitations:

1. Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant.
2. Obtain aggregate from single source.
3. Obtain each type of admixture from single source from single manufacturer.

B. Cementitious Materials:

1. Portland Cement: ASTM C150/C150M, Type I or I/II or ASTM C595 Type IL
2. Fly Ash: ASTM C618, Class C or F.
3. Slag Cement: ASTM C989/C989M, Grade 100 or 120.
4. Silica Fume: ASTM C1240 amorphous silica.
5. Blended Hydraulic Cement: ASTM C595/C595M, Type IL, portland-limestone cement.

C. Normal-Weight Aggregates: ASTM C33/C33M, Class 4S coarse aggregate or better, graded. Provide aggregates from a single source.

1. Alkali-Silica Reaction: Comply with one of the following:
 - a. Expansion Result of Aggregate: Not more than 0.04 percent at one-year when tested in accordance with ASTM C1293.
 - b. Expansion Results of Aggregate and Cementitious Materials in Combination: Not more than 0.10 percent at an age of 16 days when tested in accordance with ASTM C1567.
 - c. Alkali Content in Concrete: Not more than 4 lb./cu. yd. for moderately reactive aggregate or 3 lb./cu. yd. for highly reactive aggregate, when tested in accordance with ASTM C1293 and categorized in accordance with ASTM C1778, based on alkali content being calculated in accordance with ACI 301.
2. Maximum Coarse-Aggregate Size: 3/4 inch nominal.
3. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

D. Air-Entraining Admixture: ASTM C260/C260M.

E. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.

1. Water-Reducing Admixture: ASTM C494/C494M, Type A.
2. Retarding Admixture: ASTM C494/C494M, Type B.
3. Water-Reducing and -Retarding Admixture: ASTM C494/C494M, Type D.
4. High-Range, Water-Reducing Admixture: ASTM C494/C494M, Type F.
5. High-Range, Water-Reducing and -Retarding Admixture: ASTM C494/C494M, Type G.
6. Plasticizing and Retarding Admixture: ASTM C1017/C1017M, Type II.

- F. Water and Water Used to Make Ice: ASTM C94/C94M, potable

2.3 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.
- B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. when dry.
- C. Moisture-Retaining Cover: ASTM C171, polyethylene film burlap-polyethylene sheet.
 - 1. Color:
 - a. Ambient Temperature Below 50 deg F: Black.
 - b. Ambient Temperature between 50 deg F and 85 deg F: Any color.
 - c. Ambient Temperature Above 85 deg F: White.
- D. Curing Paper: Eight-feet-wide, natural colored polypropylene non woven fabric with white polyethylene coating applied to one side with ultraviolet light stabilizers able to provide moisture retention for at least seven (7) days.
 - 1. Basis of design product: Armorlon Transguard 4000 by Reef Industries.
- E. Water: Potable or complying with ASTM C1602/C1602M.

2.4 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D1751, asphalt-saturated cellulosic fiber or ASTM D1752, cork or self-expanding cork.
- B. Bonding Agent: ASTM C1059/C1059M, Type II, nonredispersible, acrylic emulsion or styrene butadiene.

2.5 CONCRETE MIXTURES, GENERAL

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, in accordance with ACI 301.
 - 1. Use a qualified testing agency for preparing and reporting proposed mixture designs, based on laboratory trial mixtures.
- B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:
 - 1. Fly Ash or Other Pozzolans: 25 percent by mass.

2. Slag Cement: 50 percent by mass.
3. Silica Fume: 10 percent by mass.
4. Total of Fly Ash or Other Pozzolans, Slag Cement, and Silica Fume: 50 percent by mass, with fly ash or pozzolans not exceeding 25 percent by mass and silica fume not exceeding 10 percent by mass.
5. Total of Fly Ash or Other Pozzolans and Silica Fume: 35 percent by mass with fly ash or pozzolans not exceeding 25 percent by mass and silica fume not exceeding 10 percent by mass.

C. Admixtures: Use admixtures in accordance with manufacturer's written instructions.

1. Use water-reducing, high-range water-reducing or plasticizing admixture in concrete, as required, for placement and workability.
2. Use water-reducing and -retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
3. Use water-reducing admixture in pumped concrete, concrete for heavy-use industrial slabs and parking structure slabs, and concrete with a w/cm below 0.50.

2.6 CONCRETE MIXTURES

A. Class A: Normal-weight concrete used for foundation walls, footings, grade beams, and tie beams.

1. Exposure Class: ACI 318 F2 S0 W0 C1.
2. Minimum Compressive Strength: 4000 psi at 28 days.
3. Maximum w/cm: 0.45.
4. Slump Limit: 5 inches, plus or minus 1 inch.
5. Air Content:
 - a. Exposure Classes F2 and F3: 6 percent, plus or minus 1.5 percent at point of delivery for concrete containing 3/4-inch nominal maximum aggregate size.
6. Limit water-soluble, chloride-ion content in hardened concrete to 0.15 percent by weight of cement.

2.7 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete in accordance with ASTM C94/C94M, and furnish batch ticket information.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification of Conditions:

1. Before placing concrete, verify that installation of concrete forms, accessories, and reinforcement, and embedded items is complete and that required inspections have been performed.
2. Do not proceed until unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF EMBEDDED ITEMS

A. Place and secure anchorage devices and other embedded items required for adjoining Work that is attached to or supported by cast-in-place concrete.

1. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
2. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of ANSI/AISC 303.
3. Install reglets to receive waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.

3.3 JOINTS

A. Construct joints true to line, with faces perpendicular to surface plane of concrete.

B. Construction Joints: Coordinate with floor slab pattern and concrete placement sequence.

1. Install so strength and appearance of concrete are not impaired, at locations indicated on Drawings or as approved by Architect.
2. Place joints perpendicular to main reinforcement.
 - a. Continue reinforcement across construction joints unless otherwise indicated.
 - b. Do not continue reinforcement through sides of strip placements of floors and slabs.
3. Form keyed joints as indicated. Embed keys at least 1-1/2 inches into concrete.
4. Locate joints for beams, slabs, joists, and girders at third points of spans. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.
5. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.

6. Space vertical joints in walls as indicated on Drawings. Unless otherwise indicated on Drawings, locate vertical joints beside piers integral with walls, near corners, and in concealed locations where possible.
 7. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
- C. Control Joints in Slabs-on-Ground: Form weakened-plane control joints, sectioning concrete into areas as indicated. Construct control joints for a depth equal to at least one-fourth of concrete thickness as follows:
1. Grooved Joints: Form control joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch. Repeat grooving of control joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
 2. Sawed Joints: Form control joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch-wide joints into concrete when cutting action does not tear, abrade, or otherwise damage surface and before concrete develops random cracks.
- D. Isolation Joints in Slabs-on-Ground: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated on Drawings.
 2. Terminate full-width joint-filler strips not less than 1/2 inch or more than 1 inch below finished concrete surface, where joint sealants, specified in Section 07 92 00 "Joint Sealants," are indicated.
 3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.
- E. Doweled Joints:
1. Install dowel bars and support assemblies at joints where indicated on Drawings.
 2. Lubricate or asphalt coat one-half of dowel bar length to prevent concrete bonding to one side of joint.

3.4 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, embedded items, and vapor retarder is complete and that required inspections are completed.
1. Immediately prior to concrete placement, inspect vapor retarder for damage and deficient installation, and repair defective areas.
 2. Provide continuous inspection of vapor retarder during concrete placement and make necessary repairs to damaged areas as Work progresses.

- B. Notify Architect and testing and inspection agencies 24 hours prior to commencement of concrete placement.
- C. Do not add water to concrete during delivery, at Project site, or during placement.
 - 1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.
- D. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301, but not to exceed the amount indicated on the concrete delivery ticket.
 - 1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.
- E. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness.
 - 1. If a section cannot be placed continuously, provide construction joints as indicated.
 - 2. Deposit concrete to avoid segregation.
 - 3. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures and in a manner to avoid inclined construction joints.
 - 4. Consolidate placed concrete with mechanical vibrating equipment in accordance with ACI 301.
 - a. Do not use vibrators to transport concrete inside forms.
 - b. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer.
 - c. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity.
 - d. At each insertion, limit duration of vibration to time necessary to consolidate concrete, and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.
- F. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
 - 1. Do not place concrete floors and slabs in a checkerboard sequence.
 - 2. Consolidate concrete during placement operations, so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 - 3. Maintain reinforcement in position on chairs during concrete placement.
 - 4. Screed slab surfaces with a straightedge and strike off to correct elevations.
 - 5. Level concrete, cut high areas, and fill low areas.
 - 6. Slope surfaces uniformly to drains where required.
 - 7. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface.
 - 8. Do not further disturb slab surfaces before starting finishing operations.

3.5 FINISHING FORMED SURFACES

A. As-Cast Surface Finishes:

1. ACI 301 Surface Finish SF-1.0: As-cast concrete texture imparted by form-facing material.
 - a. Patch voids larger than 1-1/2 inches wide or 1/2 inch deep.
 - b. Remove projections larger than 1 inch.
 - c. Tie holes do not require patching.
 - d. Surface Tolerance: ACI 117 Class D.
 - e. Apply to concrete surfaces not exposed to public view.
2. ACI 301 Surface Finish SF-3.0:
 - a. Patch voids larger than 3/4 inch wide or 1/2 inch deep.
 - b. Remove projections larger than 1/8 inch.
 - c. Patch tie holes.
 - d. Surface Tolerance: ACI 117 Class A.
 - e. Locations: Apply to concrete surfaces exposed to public view, to receive a rubbed finish, or to be covered with a coating or covering material applied directly to concrete Insert locations.

B. Rubbed Finish: Apply the following to as cast surface finishes exposed to view:

1. Grout-Cleaned Rubbed Finish:
 - a. Clean concrete surfaces after contiguous surfaces are completed and accessible.
 - b. Do not clean concrete surfaces as Work progresses.
 - c. Mix 1 part portland cement to 1-1/2 parts fine sand, complying with ASTM C144 or ASTM C404, by volume, with sufficient water to produce a mixture with the consistency of thick paint. Add white portland cement in amounts determined by trial patches, so color of dry grout matches adjacent surfaces.
 - d. Wet concrete surfaces.
 - e. Scrub grout into voids and remove excess grout. When grout whitens, rub surface with clean burlap, and keep surface damp by fog spray for at least 36 hours.

C. Related Unformed Surfaces:

1. At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a color and texture matching adjacent formed surfaces.
2. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

3.6 FINISHING FLOORS AND SLABS

- A. Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Scratch Finish:
 - 1. While still plastic, texture concrete surface that has been screeded and bull-floated or darbied.
 - 2. Use stiff brushes, brooms, or rakes to produce a profile depth of 1/4 inch in one direction.
 - 3. Apply scratch finish to surfaces to receive concrete floor toppings.
- C. Float Finish:
 - 1. When bleedwater sheen has disappeared and concrete surface has stiffened sufficiently to permit operation of specific float apparatus, consolidate concrete surface with power-driven floats or by hand floating if area is small or inaccessible to power-driven floats.
 - 2. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture and complies with ACI 117 tolerances for conventional concrete.
 - 3. Apply float finish to surfaces to receive trowel finish and to be covered with fluid-applied or sheet waterproofing, built-up or membrane roofing, or sand-bed terrazzo.
- D. Trowel Finish:
 - 1. After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel.
 - 2. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance.
 - 3. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.
 - 4. Do not add water to concrete surface.
 - 5. Do not apply hard-troweled finish to concrete, which has a total air content greater than 3 percent.
 - 6. Apply a trowel finish to surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin-film-finish coating system Insert locations.
 - 7. Finish surfaces to the following tolerances, in accordance with ASTM E1155, for a randomly trafficked floor surface:
 - a. Slabs on Ground:
 - 1) Typical Slabs: Specified overall values of flatness, $F_F 35$; and of levelness, $F_L 25$; with minimum local values of flatness, $F_F 24$; and of levelness, $F_L 17$.

- 2) Floors to be polished: Specified Overall Value (SOV): $F_F 50$ and $F_L 25$ with minimum local value (MLV): $F_F 40$ and $F_L 17$.
 8. Finish and measure surface, so gap at any point between concrete surface and an unlevelled, freestanding, 10-ft.- long straightedge resting on two high spots and placed anywhere on the surface does not exceed 1/8 inch.
 - E. Trowel and Fine-Broom Finish: Apply a first trowel finish to surfaces indicated on Drawings where ceramic or quarry tile is to be installed by either thickset or thinset method. While concrete is still plastic, slightly scarify surface with a fine broom perpendicular to main traffic route.
 1. Coordinate required final finish with Architect before application.
 2. Comply with flatness and levelness tolerances for trowel-finished floor surfaces.
 - F. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, ramps, and locations indicated on Drawings.
 1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route.
 2. Coordinate required final finish with Architect before application.
- 3.7 INSTALLATION OF MISCELLANEOUS CONCRETE ITEMS
- A. Filling In:
 1. Fill in holes and openings left in concrete structures after Work of other trades is in place unless otherwise indicated.
 2. Mix, place, and cure concrete, as specified, to blend with in-place construction.
 3. Provide other miscellaneous concrete filling indicated or required to complete the Work.
 - B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.
 - C. Equipment Bases and Foundations:
 1. Coordinate sizes and locations of concrete bases with actual equipment provided.
 2. Construct concrete bases 4 inches high unless otherwise indicated on Drawings, and extend base not less than 6 inches in each direction beyond the maximum dimensions of supported equipment unless otherwise indicated on Drawings, or unless required for seismic anchor support.
 3. Minimum Compressive Strength: 4000 psi at 28 days.
 4. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around the full perimeter of concrete base.

5. Prior to pouring concrete, place and secure anchorage devices.
 - a. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - b. Cast anchor-bolt insert into bases.
 - c. Install anchor bolts to elevations required for proper attachment to supported equipment.

3.8 CONCRETE CURING

- A. Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
 1. Comply with ACI 301 and ACI 306.1 for cold weather protection during curing.
 2. Comply with ACI 301 and ACI 305.1 for hot-weather protection during curing.
- B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply in accordance with manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- C. Curing Formed Surfaces: Comply with ACI 308.1 as follows:
 1. Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces.
 2. Cure concrete containing color pigments in accordance with color pigment manufacturer's instructions.
 3. If forms remain during curing period, moist cure after loosening forms.
 4. If removing forms before end of curing period, continue curing for remainder of curing period, as follows:
 - a. Continuous Fogging: Maintain standing water on concrete surface until final setting of concrete.
 - b. Continuous Sprinkling: Maintain concrete surface continuously wet.
 - c. Absorptive Cover: Pre-dampen absorptive material before application; apply additional water to absorptive material to maintain concrete surface continuously wet.
 - d. Water-Retention Sheeting Materials: Cover exposed concrete surfaces with sheeting material, taping, or lapping seams.
- D. Curing Unformed Surfaces: Comply with ACI 308.1 as follows:
 1. Begin curing immediately after finishing concrete.
 2. Interior Concrete Floors:
 - a. Floors to Receive Floor Coverings Specified in Other Sections: Contractor has option of the following:

- 1) Absorptive Cover: As soon as concrete has sufficient set to permit application without marring concrete surface, install prewetted absorptive cover over entire area of floor.
 - a) Lap edges and ends of absorptive cover not less than 12-inches.
 - b) Maintain absorptive cover water saturated, and in place, for duration of curing period, but not less than seven days.
 - 2) Moisture-Retaining-Cover or Curing Paper Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive.
 - a) Immediately repair any holes or tears during curing period, using cover material and waterproof tape.
 - b) Cure for not less than seven days.
 - 3) Ponding or Continuous Sprinkling of Water: Maintain concrete surfaces continuously wet for not less than seven days, utilizing one, or a combination of, the following:
 - a) Water.
 - b) Continuous water-fog spray.
- b. Floors to Receive Penetrating Liquid Floor Treatments: Contractor has option of the following:
- 1) Curing Paper Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive.
 - a) Immediately repair any holes or tears during curing period, using cover material and waterproof tape.
 - b) Cure for not less than seven days.
 - 2) Ponding or Continuous Sprinkling of Water: Maintain concrete surfaces continuously wet for not less than seven days, utilizing one, or a combination of, the following:
 - a) Water.
 - b) Continuous water-fog spray.

3.9 TOLERANCES

- A. Conform to ACI 117.

3.10 CONCRETE SURFACE REPAIRS

A. Defective Concrete:

1. Repair and patch defective areas when approved by Architect.
2. Remove and replace concrete that cannot be repaired and patched to Architect's approval.

B. Patching Mortar: Mix dry-pack patching mortar, consisting of 1 part portland cement to 2-1/2 parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.

C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.

1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension to solid concrete.
 - a. Limit cut depth to 3/4 inch.
 - b. Make edges of cuts perpendicular to concrete surface.
 - c. Clean, dampen with water, and brush-coat holes and voids with bonding agent.
 - d. Fill and compact with patching mortar before bonding agent has dried.
 - e. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement, so that, when dry, patching mortar matches surrounding color.
 - a. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching.
 - b. Compact mortar in place and strike off slightly higher than surrounding surface.
3. Repair defects on concealed formed surfaces that will affect concrete's durability and structural performance as determined by Architect.

D. Repairing Unformed Surfaces:

1. Test unformed surfaces, such as floors and slabs, for finish, and verify surface tolerances specified for each surface.
 - a. Correct low and high areas.
 - b. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
2. Repair finished surfaces containing surface defects, including spalls, popouts, honeycombs, rock pockets, crazing, and cracks in excess of 0.01 inch wide or that

- penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
3. After concrete has cured at least 14 days, correct high areas by grinding.
 4. Correct localized low areas during, or immediately after, completing surface-finishing operations by cutting out low areas and replacing with patching mortar.
 - a. Finish repaired areas to blend into adjacent concrete.
 5. Correct other low areas scheduled to receive floor coverings with a repair underlayment.
 - a. Prepare, mix, and apply repair underlayment and primer in accordance with manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
 - b. Feather edges to match adjacent floor elevations.
 6. Correct other low areas scheduled to remain exposed with repair topping.
 - a. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch to match adjacent floor elevations.
 - b. Prepare, mix, and apply repair topping and primer in accordance with manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
 7. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out and replacing with fresh concrete.
 - a. Remove defective areas with clean, square cuts, and expose steel reinforcement with at least a 3/4-inch clearance all around.
 - b. Dampen concrete surfaces in contact with patching concrete and apply bonding agent.
 - c. Mix patching concrete of same materials and mixture as original concrete, except without coarse aggregate.
 - d. Place, compact, and finish to blend with adjacent finished concrete.
 - e. Cure in same manner as adjacent concrete.
 8. Repair random cracks and single holes 1 inch or less in diameter with patching mortar.
 - a. Groove top of cracks and cut out holes to sound concrete, and clean off dust, dirt, and loose particles.
 - b. Dampen cleaned concrete surfaces and apply bonding agent.
 - c. Place patching mortar before bonding agent has dried.
 - d. Compact patching mortar and finish to match adjacent concrete.
 - e. Keep patched area continuously moist for at least 72 hours.
- E. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.

- F. Repair materials and installation not specified above may be used, subject to Architect's approval.

3.11 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a special inspector to perform field tests and inspections and prepare testing and inspection reports.
- B. Testing Agency: Owner will engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.
 - 1. Testing agency shall immediately report to Architect, Contractor, and concrete manufacturer any failure of Work to comply with Contract Documents.
 - 2. Testing agency shall report results of tests and inspections, in writing, to Owner, Architect, Contractor, and concrete manufacturer within 48 hours of inspections and tests.
 - a. Test reports shall include reporting requirements of ASTM C31/C31M and ASTM C39/C39M, including the following as applicable to each test and inspection:
 - 1) Project name.
 - 2) Name of testing agency.
 - 3) Names and certification numbers of field and laboratory technicians performing inspections and testing.
 - 4) Name of concrete manufacturer.
 - 5) Date and time of inspection, sampling, and field testing.
 - 6) Date and time of concrete placement.
 - 7) Location in Work of concrete represented by samples.
 - 8) Date and time sample was obtained.
 - 9) Truck and batch ticket numbers.
 - 10) Design compressive strength at 28 days.
 - 11) Concrete mixture designation, proportions, and materials.
 - 12) Field test results.
 - 13) Information on storage and curing of samples before testing, including curing method and maximum and minimum temperatures during initial curing period.
 - 14) Type of fracture and compressive break strengths at seven days and 28 days.
- C. Batch Tickets: For each load delivered, submit three copies of batch delivery ticket to testing agency, indicating quantity, mix identification, admixtures, design strength, aggregate size, design air content, design slump at time of batching, and amount of water that can be added at Project site.
- D. Inspections:

1. Headed bolts and studs.
2. Verification of use of required design mixture.
3. Concrete placement, including conveying and depositing.
4. Curing procedures and maintenance of curing temperature.
5. Verification of concrete strength before removal of shores and forms from beams and slabs.
6. Batch Plant Inspections: On a random basis, as determined by Architect.
7. Concrete Tests: Testing of composite samples of fresh concrete obtained in accordance with ASTM C 172/C 172M shall be performed in accordance with the following requirements:
 - a. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for each additional 50 cu. yd. or fraction thereof.
 - b. When frequency of testing provides fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
8. Slump: ASTM C143/C143M:
 - a. One test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture.
 - b. Perform additional tests when concrete consistency appears to change.
9. Slump Flow: ASTM C1611/C1611M:
 - a. One test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture.
 - b. Perform additional tests when concrete consistency appears to change.
10. Air Content: ASTM C231/C231M pressure method, for normal-weight concrete;.
 - a. One test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
11. Concrete Temperature: ASTM C1064/C1064M:
 - a. One test hourly when air temperature is 40 deg F and below or 80 deg F and above, and one test for each composite sample.
12. Compression Test Specimens: ASTM C31/C31M:
 - a. Cast and laboratory cure two sets of two 6-inch by 12-inch or two sets of three 4-inch by 8-inch cylinder specimens for each composite sample.
 - b. Cast, initial cure, and field cure two sets of two standard cylinder specimens for each composite sample.
13. Compressive-Strength Tests: ASTM C39/C39M.

- a. Test one set of laboratory-cured specimens at seven days and one set of two specimens at 28 days.
 - b. Test one set of field-cured specimens at seven days and one set of two specimens at 28 days.
 - c. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
 - d. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
 - e. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength, and no compressive-strength test value falls below specified compressive strength by more than 500 psi if specified compressive strength is 5000 psi, or no compressive strength test value is less than 10 percent of specified compressive strength if specified compressive strength is greater than 5000 psi.
14. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
15. Additional Tests:
- a. Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect.
 - b. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42/C42M or by other methods as directed by Architect.
 - c. Acceptance criteria for concrete strength shall be in accordance with ACI 301 section 1.6.6.3.
 - d. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
 - e. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.
- E. Measure floor and slab flatness and levelness in accordance with ASTM E1155 within 48 hours of completion of floor finishing and promptly report test results to Architect.

3.12 PROTECTION

- A. Protect concrete surfaces as follows:
- 1. Protect from petroleum stains.
 - 2. Diaper hydraulic equipment used over concrete surfaces.

3. Prohibit vehicles from interior concrete slabs.
4. Prohibit use of pipe-cutting machinery over concrete surfaces.
5. Prohibit placement of steel items on concrete surfaces.
6. Prohibit use of acids or acidic detergents over concrete surfaces.
7. Protect liquid floor treatment from damage and wear during the remainder of construction period. Use protective methods and materials, including temporary covering, recommended in writing by liquid floor treatments installer.
8. Protect concrete surfaces scheduled to receive surface hardener or polished concrete finish using Floor Slab Protective Covering.

END OF SECTION 03 30 00

SECTION 03 10 00 - CONCRETE FORMING AND ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Form-facing material for cast-in-place concrete.
 - 2. Shoring, bracing, and anchoring.
- B. Related Requirements:
 - 1. Section 03 20 00 "Concrete Reinforcing" for steel reinforcing bars.
 - 2. Section 03 30 00 "Cast-in-Place Concrete" for concrete materials, mix design, placement procedures, and finishes.

1.3 DEFINITIONS

- A. Form-Facing Material: Temporary structure or mold for the support of concrete while the concrete is setting and gaining sufficient strength to be self-supporting.
- B. Formwork: The total system of support of freshly placed concrete, including the mold or sheathing that contacts the concrete, as well as supporting members, hardware, and necessary bracing.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review the following:
 - a. Special inspection and testing and inspecting agency procedures for field quality control.
 - b. Construction, movement, contraction, and isolation joints
 - c. Forms and form-removal limitations.
 - d. Shoring and reshoring procedures.
 - e. Anchor rod and anchorage device installation tolerances.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: Detailing fabrication, assembly, and support of forms.
 - 1. For exposed vertical concrete walls, indicate dimensions and form tie locations.
 - 2. Indicate dimension and locations of construction and movement joints required to construct the structure in accordance with ACI 301.
 - a. Location of construction joints is subject to approval of the Architect.
 - 3. Indicate location of waterstops.
 - 4. Indicate proposed schedule and sequence of stripping of forms, shoring removal, and reshoring installation and removal.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For testing and inspection agency.
- B. Minutes of preinstallation conference.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Concrete Formwork: Design, engineer, erect, shore, brace, and maintain formwork, shores, and reshores in accordance with ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads, so that resulting concrete conforms to the required shapes, lines, and dimensions.
 - 1. Design wood panel forms in accordance with APA's "Concrete Forming Design/Construction Guide."
 - 2. Design formwork to limit deflection of form-facing material to 1/240 of center-to-center spacing of supports.
- B. Design, engineer, erect, shore, brace, and maintain insulating concrete forms in accordance with ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads, so that resulting concrete conforms to the required shapes, lines, and dimensions.

2.2 FORM-FACING MATERIALS

- A. As-Cast Surface Form-Facing Material:

1. Provide continuous, true, and smooth concrete surfaces.
 2. Furnish in largest practicable sizes to minimize number of joints.
 3. Acceptable Materials: As required to comply with Surface Finish designations specified in Section 03 30 00 "Cast-In-Place Concrete, and as follows:
 - a. Plywood, metal, or other approved panel materials.
 - b. Exterior-grade plywood panels, suitable for concrete forms, complying with DOC PS 1, and as follows:
 - 1) APA HDO (high-density overlay).
 - 2) APA MDO (medium-density overlay); mill-release agent treated, and edge sealed.
- B. Concealed Surface Form-Facing Material: Lumber, plywood, metal, plastic, or another approved material.
1. Provide lumber dressed on at least two edges and one side for tight fit.
- C. Forms for Cylindrical Columns, Pedestals, and Supports: Metal, glass-fiber-reinforced plastic, paper, or fiber tubes that produce surfaces not exceeding specified formwork surface class.
1. Provide forms with sufficient wall thickness to resist plastic concrete loads without detrimental deformation.

2.3 RELATED MATERIALS

- A. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch, minimum.
- B. Form-Release Agent: Commercially formulated form-release agent that does not bond with, stain, or adversely affect concrete surfaces and does not impair subsequent treatments of concrete surfaces.
1. Form Release Agent must be potable water approved in accordance with NSF/ANSI 61.
 2. Formulate form-release agent with rust inhibitor for steel form-facing materials.
- C. Form Ties: Factory-fabricated, removable or snap-off, glass-fiber-reinforced plastic or metal form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.
1. Furnish units that leave no corrodible metal closer than 1-1/2" inch to the plane of exposed concrete surface.
 2. Furnish ties that, when removed, leave holes no larger than 1 inch in diameter in concrete surface.
 3. Furnish ties with integral water-barrier plates to walls indicated to receive dampproofing or waterproofing.

PART 3 - EXECUTION

3.1 INSTALLATION OF FORMWORK

- A. Comply with ACI 301.
- B. Construct formwork, so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117 and to comply with the Surface Finish designations specified in Section 03 30 00 "Cast-In-Place Concrete" for as-cast finishes.
- C. Limit concrete surface irregularities as follows:
 - 1. Surface Finish-1.0: ACI 117 Class D, 1 inch.
 - 2. Surface Finish-2.0: ACI 117 Class B, 1/4 inch.
 - 3. Surface Finish-3.0: ACI 117 Class A, 1/8 inch.
- D. Construct forms tight enough to prevent loss of concrete mortar.
 - 1. Minimize joints.
 - 2. Exposed Concrete: Symmetrically align joints in forms.
- E. Construct removable forms for easy removal without hammering or prying against concrete surfaces.
 - 1. Provide crush or wrecking plates where stripping may damage cast-concrete surfaces.
 - 2. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.
 - 3. Install keyways, reglets, recesses, and other accessories, for easy removal.
- F. Do not use rust-stained, steel, form-facing material.
- G. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces.
 - 1. Provide and secure units to support screed strips
 - 2. Use strike-off templates or compacting-type screeds.
- H. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible.
 - 1. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar.
 - 2. Locate temporary openings in forms at inconspicuous locations.
- I. Chamfer exterior corners and edges of permanently exposed concrete.
- J. At construction joints, overlap forms onto previously placed concrete not less than 12 inches.

- K. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work.
 - 1. Determine sizes and locations from trades providing such items.
 - 2. Obtain written approval of Architect prior to forming openings not indicated on Drawings.
- L. Construction and Movement Joints:
 - 1. Construct joints true to line with faces perpendicular to surface plane of concrete.
 - 2. Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
 - 3. Place joints perpendicular to main reinforcement.
 - 4. Locate joints for beams, slabs, joists, and girders in the middle third of spans.
 - a. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.
 - 5. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.
 - 6. Space vertical joints in walls as indicated on Drawings.
 - a. Locate joints beside piers integral with walls, near corners, and in concealed locations where possible.
- M. Provide temporary ports or openings in formwork where required to facilitate cleaning and inspection.
 - 1. Locate ports and openings in bottom of vertical forms, in inconspicuous location, to allow flushing water to drain.
 - 2. Close temporary ports and openings with tight-fitting panels, flush with inside face of form, and neatly fitted, so joints will not be apparent in exposed concrete surfaces.
- N. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- O. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- P. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 INSTALLATION OF EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete.

1. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
2. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC 303.
3. Install reglets to receive waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.
4. Install dovetail anchor slots in concrete structures, as indicated on Drawings.
5. Clean embedded items immediately prior to concrete placement.

3.3 REMOVING AND REUSING FORMS

- A. Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F for 24 hours after placing concrete. Concrete must be hard enough to not be damaged by form-removal operations and curing and protection operations need to be maintained.
 1. Leave formwork for beam soffits, joists, slabs, and other structural elements that support weight of concrete in place until concrete has achieved at least 70 percent of its 28-day design compressive strength.
 2. Remove forms only if shores have been arranged to permit removal of forms without loosening or disturbing shores.
- B. Clean and repair surfaces of forms to be reused in the Work.
 1. Split, frayed, delaminated, or otherwise damaged form-facing material are unacceptable for exposed surfaces.
 2. Apply new form-release agent.
- C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints.
 1. Align and secure joints to avoid offsets.
 2. Do not use patched forms for exposed concrete surfaces unless approved by Architect.

END OF SECTION 03 10 00

SECTION 03 20 00 - CONCRETE REINFORCING

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Steel reinforcement bars.
- B. Related Requirements:
 - 1. Section 03 10 00 "Concrete Forming and Accessories" for form-facing material and concrete accessories.
 - 2. Section 03 30 00 "Cast-in-Place Concrete" for concrete materials, mix designs, placement procedures, and finishes.
 - 3. Section 03 41 00 "Precast Structural Concrete" for reinforcing used in precast structural concrete.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review the following:
 - a. Construction contraction and isolation joints.
 - b. Steel-reinforcement installation.

1.4 ACTION SUBMITTALS

- A. Shop Drawings: Comply with ACI SP-066:
 - 1. Include placing drawings that detail fabrication, bending, and placement.
 - 2. Include bar sizes, lengths, materials, grades, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, location of splices, lengths of lap splices, details of mechanical splice couplers, details of welding splices, tie spacing, hoop spacing, and supports for concrete reinforcement.
- B. Construction Joint Layout: Indicate proposed construction joints required to build the structure.
 - 1. Location of construction joints is subject to approval of the Architect.

1.5 INFORMATIONAL SUBMITTALS

- A. Minutes of preinstallation conference.

1.6 QUALITY ASSURANCE

- A. Testing Agency Qualifications: An independent agency, qualified in accordance with ASTM C1077 and ASTM E329 for testing indicated.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage. and to avoid damaging coatings on steel reinforcement.
 - 1. Store reinforcement to avoid contact with earth.
 - 2. Do not allow epoxy-coated reinforcement to be stored outdoors for more than 60 days without being stored under an opaque covering.

PART 2 - PRODUCTS

2.1 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A615/A615M, Grade 60, deformed.
- B. Low-Alloy Steel Reinforcing Bars: ASTM A706/A706M, deformed.
- C. Epoxy-Coated Reinforcing Bars:
 - 1. Steel Bars: ASTM A615/A615M, Grade 60, deformed bars.
 - 2. Epoxy Coating: ASTM A775/A775M or ASTM A934/A934M with less than 2 percent damaged coating in each 12-inch bar length.
- D. Plain-Steel Welded-Wire Reinforcement: ASTM A1064/A1064M, plain, fabricated from as-drawn steel wire into flat sheets.

2.2 REINFORCEMENT ACCESSORIES

- A. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded-wire reinforcement in place.
 - 1. Manufacture bar supports from steel wire, plastic, or precast concrete in accordance with CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:

- a. For concrete surfaces exposed to view, where legs of wire bar support contact forms, use CRSI Class 1 plastic-protected steel wire, all-plastic bar supports, or CRSI Class 2 stainless steel bar supports.
 - b. For epoxy-coated reinforcement, use CRSI Class 1A epoxy-coated or other dielectric-polymer-coated wire bar supports.
- B. Steel Tie Wire: ASTM A1064/A1064M, annealed steel, not less than 0.0508 inch in diameter.
 - 1. Finish: Galvanized.
- C. Epoxy Repair Coating: Liquid, two-part, epoxy repair coating; compatible with epoxy coating on reinforcement and complying with ASTM A775/A775M.

2.3 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protection of In-Place Conditions:
 - 1. Do not cut or puncture vapor retarder.
 - 2. Repair damage and reseal vapor retarder before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that reduce bond to concrete.

3.2 INSTALLATION OF STEEL REINFORCEMENT

- A. Comply with CRSI's "Manual of Standard Practice" for placing and supporting reinforcement.
- B. Accurately position, support, and secure reinforcement against displacement.
 - 1. Locate and support reinforcement with bar supports to maintain minimum concrete cover.
 - 2. Do not tack weld crossing reinforcing bars.
- C. Preserve clearance between bars of not less than 1 inch, not less than one bar diameter, or not less than 1-1/3 times size of large aggregate, whichever is greater.
- D. Provide concrete coverage in accordance with ACI 318.
- E. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

F. Splices: Lap splices as indicated on Drawings.

1. Bars indicated to be continuous, and all vertical bars shall be lapped not less than 36 bar diameters at splices, or 24 inches, whichever is greater.
2. Stagger splices in accordance with ACI 318.
3. Mechanical Splice Couplers: Install in accordance with manufacturer's instructions.
4. Weld reinforcing bars in accordance with AWS D1.4/D 1.4M, where indicated on Drawings.

G. Install structural thermal break insulated connection system in accordance with manufacturer's instructions.

3.3 JOINTS

A. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.

1. Place joints perpendicular to main reinforcement.
2. Continue reinforcement across construction joints unless otherwise indicated.
3. Do not continue reinforcement through sides of strip placements of floors and slabs.

3.4 INSTALLATION TOLERANCES

A. Comply with ACI 117.

END OF SECTION 03 20 00

SECTION 047200 - CAST STONE MASONRY

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Decorative elements.
 - 2. Mortar materials.
 - 3. Accessories.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. For cast stone units, include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Shop Drawings: Show fabrication and installation details for cast stone units. Include dimensions, details of reinforcement and anchorages if any, and indication of finished faces.
 - 1. Include building elevations showing layout of units and locations of joints and anchors.
- C. Samples for Initial Selection: For colored mortar.
- D. Samples for Verification:
 - 1. For each color and texture of cast stone required, **4 inches (100 mm) square** in size.
 - 2. For each trim shape required, **4 inches (100 mm)** in length.
 - 3. For colored mortar, make Samples using same sand and mortar ingredients to be used on Project. **Label Samples to indicate types and amounts of pigments used.**
 - 4. Make Samples from materials to be used for units used on Project **immediately before beginning production of units for Project.**
 - 5. Approved Samples may be installed in the Work.

1.3 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer of cast stone units similar to those indicated for this Project, that has sufficient production capacity to manufacture required units, and is a plant certified by **PCI for Group A, Category AT.**

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Coordinate delivery of cast stone **with any unit masonry work** to avoid delaying the Work **and to minimize the need for on-site storage**.
- B. Pack, handle, and ship cast stone units in suitable packs or pallets.
 - 1. Lift with wide-belt slings; do not use wire rope or ropes that might cause staining. Move cast stone units if required, using dollies with wood supports.
 - 2. Store cast stone units on wood skids or pallets with nonstaining, waterproof covers, securely tied. Arrange to distribute weight evenly and to prevent damage to units. Ventilate under covers to prevent condensation.

1.5 PROJECT CONDITIONS

- A. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Comply with cold-weather construction requirements in TMS 602.
 - 1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F (4 deg C) and above and will remain so until cast stone has dried, but no fewer than seven days after completing cleaning.
- B. Hot-Weather Requirements: Comply with hot-weather construction requirements in TMS 602.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations for Cast Stone: Obtain cast stone units from single source from single manufacturer.
- B. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color, from one manufacturer for each cementitious component and from one source or producer for each aggregate.

2.2 CAST STONE MATERIALS

- A. General: Comply with ASTM C1364.
- B. Portland Cement: ASTM C150/C150M, Type I or Type III, containing not more than 0.60 percent total alkali when tested according to ASTM C114. Provide natural color or white cement as required to produce cast stone color indicated. Contractor to confirm match to existing.

- C. Coarse Aggregates: Granite, quartz, or limestone complying with ASTM C33/C33M; gradation and colors as needed to produce required cast stone textures and colors.
- D. Fine Aggregates: Natural sand or crushed stone complying with ASTM C33/C33M, gradation and colors as needed to produce required cast stone textures and colors.
- E. Admixtures: Use only admixtures specified or approved in writing by Architect.
 - 1. Do not use admixtures that contain more than 0.1 percent water-soluble chloride ions by mass of cementitious materials. Do not use admixtures containing calcium chloride.
 - 2. Use only admixtures that are certified by manufacturer to be compatible with cement and other admixtures used.
- F. Reinforcement:
 - 1. Deformed steel bars complying with ASTM A615/A615M, Grade 40 (Grade 280). Use galvanized or epoxy-coated reinforcement when covered with less than 1-1/2 inches (38 mm) of cast stone material.
 - a. Epoxy Coating: ASTM A775/A775M.
 - b. Galvanized Coating: ASTM A767/A767M.
 - 2. Plain-Steel, Welded-Wire Reinforcement: ASTM A1064/A1064M, plain, fabricated from as-drawn steel wire into flat sheets.
 - 3. Galvanized-Steel, Welded-Wire Reinforcement: ASTM A1064/A1064M, plain, fabricated from galvanized-steel wire into flat sheets.
 - 4. Fiber Reinforcement: ASTM C1116/C1116M.
- G. Embedded Anchors and Other Inserts: Fabricated from **stainless steel complying with ASTM A240/A240M, ASTM A276/A276M, or ASTM A666, Type 304.**

2.3 CAST STONE UNITS

- A. Cast Stone Units: Comply with ASTM C1364.
 - 1. Units are manufactured using the **manufacturer's selected** method.
 - 2. Wall Panels: **Sizes as indicated on Drawings.**
 - 3. Trim units including **items as indicated on Drawings.**
- B. Fabricate units with sharp arris and accurately reproduced details, with indicated texture on all exposed surfaces unless otherwise indicated.
 - 1. Slope exposed horizontal surfaces 1:12 to drain unless otherwise indicated.
 - 2. Provide raised fillets at backs of sills and at ends indicated to be built into jambs.
 - 3. Provide drips on projecting elements unless otherwise indicated.

C. Fabrication Tolerances:

1. Variation in Cross Section: Do not vary from indicated dimensions by more than 1/8 inch (3 mm).
2. Variation in Length: Do not vary from indicated dimensions by more than 1/360 of the length of unit or 1/8 inch (3 mm), whichever is greater, but in no case by more than 1/4 inch (6 mm).
3. Warp, Bow, and Twist: Not to exceed 1/360 of the length of unit or 1/8 inch (3 mm), whichever is greater.
4. Location of Grooves, False Joints, Holes, Anchorages, and Similar Features: Do not vary from indicated position by more than 1/8 inch (3 mm) on formed surfaces of units and 3/8 inch (10 mm) on unformed surfaces.

D. Cure Units as Follows:

1. Cure units in enclosed, moist curing room at 95 percent relative humidity and temperature of 100 deg F (38 deg C) for 12 hours or 70 deg F (21 deg C) for 16 hours.
2. Keep units damp and continue curing to comply with one of the following:
 - a. No fewer than five days at mean daily temperature of 70 deg F (21 deg C) or above.
 - b. No fewer than seven days at mean daily temperature of 50 deg F (10 deg C) or above.

E. Acid etch units after curing to remove cement film from surfaces to be exposed to view.

F. Colors and Textures: **Match existing units.**

2.4 MORTAR MATERIALS

A. Provide mortar materials that comply with **Section 04 26 13 "Masonry Veneer"**.

B. Portland Cement: ASTM C150/C150M, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.

C. Hydrated Lime: ASTM C207, Type S.

D. Portland Cement-Lime Mix: Packaged blend of portland cement and hydrated lime containing no other ingredients.

E. Masonry Cement: ASTM C91/C91M.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Cemex S.A.B. de C.V.

- b. Fairborn Cement Company.
 - c. Holcim (US) Inc.
 - d. Lafarge North America Inc.
 - e. Lehigh Hanson; HeidelbergCement Group.
 - f. Lehigh White Cement Company.
 - g. Quikrete; The QUIKRETE Companies, LLC.
- F. Preblended Dry Mortar Mix: Packaged blend made from [**portland cement and hydrated lime**] [**masonry cement**] [**or**] [**mortar cement**], sand, [**mortar pigments,**] [**water repellents,**] and admixtures and complying with ASTM C1714/C1714M.
 - 1. Preblended Dry Portland Cement Mortar Mix:
 - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Amerimix is a trademark of Bonsal American, an Oldcastle company.
 - 2) Quikrete; The QUIKRETE Companies, LLC.
 - 3) SPEC MIX, LLC.
 - 4) Sakrete; CRH Americas, Oldcastle APG.
- G. Aggregate for Mortar: ASTM C144.
 - 1. For mortar that is exposed to view, use washed aggregate consisting of natural sand or crushed stone.
 - 2. For joints less than 1/4 inch (6 mm) thick, use aggregate graded with 100 percent passing the No. 16 (1.18-mm) sieve.
 - 3. White-Mortar Aggregates: Natural white sand or crushed white stone.
- H. Water: Potable.

2.5 ACCESSORIES

- A. Anchors: Type and size indicated, fabricated from **Type 304 stainless steel complying with ASTM A240/A240M, ASTM A276/A276M, or ASTM A666.**
- B. Dowels: 1/2-inch- (12-mm-) diameter round bars, fabricated from **Type 304 stainless steel complying with ASTM A240/A240M, ASTM A276/A276M, or ASTM A666.**
- C. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by cast stone manufacturer and expressly approved by cleaner manufacturer for use on cast stone and adjacent masonry materials.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- a. Diedrich Technologies, Inc.; a Hohmann & Barnard company.
- b. EaCo Chem, Inc.
- c. PROSOCO, Inc.

2.6 MORTAR MIXES

- A. Comply with requirements in **Section 04 26 13 “Masonry Veneer”** for mortar mixes.
- B. Comply with ASTM C270, Proportion Specification.
 - 1. For setting mortar, use **Type N**.
 - 2. For pointing mortar, use **Type N**
- C. Preblended dry mortar mix complying with ASTM C1714/C1714M and capable of producing mortar strength as indicated in ASTM C270.
 - 1. For setting mortar, use **Type N**.
 - 2. For pointing mortar, use **Type N**
- D. Pigmented Mortar: Use colored cement product if required.
- E. Colored-Aggregate Mortar: Produce required mortar color by using colored aggregates and natural color or white cement as necessary to produce required mortar color.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 SETTING CAST STONE IN MORTAR

- A. Set cast stone as indicated in TMS 604.
- B. Set cast stone as indicated on Drawings. Set units accurately in locations indicated, with edges and faces aligned according to established relationships and indicated tolerances.
 - 1. Install anchors, supports, fasteners, and other attachments indicated or necessary to secure units in place.
 - 2. Coordinate installation of cast stone with installation of flashing specified in other Sections.
- C. Wet joint surfaces thoroughly before applying mortar or setting in mortar.

- D. Set units in full bed of mortar with full head joints unless otherwise indicated.
 - 1. Set units with joints to match existing width unless otherwise indicated.
 - 2. Build anchors and ties into mortar joints as units are set.
 - 3. Fill dowel holes and anchor slots with mortar.
- E. Tool exposed joints slightly concave when thumbprint hard. Use a smooth plastic jointer larger than joint thickness. Match existing, but not less than **1/2 inch (13 mm)**.
- F. Rake out joints for pointing with sealant to depths of not less than 3/4 inch (19 mm). Scrub faces of units to remove excess mortar as joints are raked.
- G. Point joints with sealant to comply with applicable requirements in Section 079200 "Joint Sealants."
 - 1. Prime cast stone surfaces to receive sealant and install compressible backer rod in joints before applying sealant unless otherwise indicated.
- H. Provide sealant joints at head joints of copings and other horizontal surfaces; at expansion, control, and pressure-relieving joints; and at locations indicated.
 - 1. Keep joints free of mortar and other rigid materials.
 - 2. Build in compressible foam-plastic joint fillers where indicated.
 - 3. Form joint of width indicated, but not less than **1/2 inch (13 mm)**.
 - 4. Prime cast stone surfaces to receive sealant and install compressible backer rod in joints before applying sealant unless otherwise indicated.
 - 5. Prepare and apply sealant of type and at locations indicated to comply with applicable requirements in Section 079200 "Joint Sealants."

3.3 SETTING ANCHORED CAST STONE WITH SEALANT-FILLED JOINTS

- A. Set cast stone as indicated in TMS 604.
- B. Set cast stone as indicated on Drawings. Set units accurately in locations indicated, with edges and faces aligned according to established relationships and indicated tolerances.
 - 1. Install anchors, supports, fasteners, and other attachments indicated or necessary to secure units in place.
 - 2. Shim and adjust anchors, supports, and accessories to set cast stone in locations indicated with uniform joints.
- C. Keep cavities open where unfilled space is indicated between back of cast stone units and backup wall; do not fill cavities with mortar or grout.
- D. Fill anchor holes with sealant.

1. Where dowel holes occur at pressure-relieving joints, provide compressible material at ends of dowels.
- E. Set cast stone supported on clip or continuous angles on resilient setting shims. Use material of thickness required to maintain uniform joint widths. Hold shims back from face of cast stone a distance at least equal to width of joint.
- F. Keep joints free of mortar and other rigid materials. Remove temporary shims and spacers from joints after anchors and supports are secured in place and cast stone units are anchored. Do not begin sealant installation until temporary shims and spacers are removed.
1. Form open joint of width indicated, but not less than **1/2 inch (13 mm)**.
- G. Prime cast stone surfaces to receive sealant and install compressible backer rod in joints before applying sealant unless otherwise indicated.
- H. Prepare and apply sealant of type and at locations indicated to comply with applicable requirements in Section 079200 "Joint Sealants."

3.4 INSTALLATION TOLERANCES

- A. Variation from Plumb: Do not exceed **1/4 inch in 10 ft. (6 mm in 3 m)**.
- B. Variation from Level: Do not exceed **1/4 inch in 10 ft. (6 mm in 3 m)**.
- C. Variation in Joint Width: Do not vary joint thickness more than 1/8 inch in 36 inches (3 mm in 900 mm) or one-fourth of nominal joint width, whichever is less.
- D. Variation in Plane between Adjacent Surfaces (Lipping): Do not vary from flush alignment with adjacent units or adjacent surfaces indicated to be flush with units by more than 1/16 inch (1.5 mm), except where variation is due to warpage of units within tolerances specified.

3.5 ADJUSTING AND CLEANING

- A. Remove and replace stained and otherwise damaged units and units not matching approved Samples. Cast stone may be repaired if methods and results are approved by Architect.
- B. Replace units in a manner that results in cast stone matching approved Samples, complying with other requirements, and showing no evidence of replacement.
- C. In-Progress Cleaning: Clean cast stone as work progresses.
 1. Remove mortar fins and smears before tooling joints.
 2. Remove excess sealant immediately, including spills, smears, and spatter.
- D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed cast stone as follows:

1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
2. Test cleaning methods on sample; leave one sample uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of cast stone.
3. Protect adjacent surfaces from contact with cleaner by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape.
4. Wet surfaces with water before applying cleaners; remove cleaners promptly by rinsing thoroughly with clear water.
5. Clean cast stone by methods described in Cast Stone Institute Technical Bulletin #39.
6. Clean cast stone with proprietary acidic cleaner applied according to manufacturer's written instructions.

END OF SECTION 047200

SECTION 04 22 00 - CONCRETE UNIT MASONRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Concrete masonry units.
2. Mortar and grout.
3. Steel reinforcing bars.
4. Masonry-joint reinforcement.
5. Embedded flashing.
6. Miscellaneous masonry accessories.
7. Masonry-cell fill.

B. Related Requirements:

1. Section 07 62 00 "Sheet Metal Flashing and Trim" for exposed sheet metal flashing and for furnishing manufactured reglets installed in masonry joints.

1.2 DEFINITIONS

A. CMU(s): Concrete masonry unit(s).

B. Reinforced Masonry: Masonry containing reinforcing steel in grouted cells.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For the following:

1. Masonry Units: Show sizes, profiles, coursing, and locations of special shapes.
2. Reinforcing Steel: Detail bending, lap lengths, and placement of unit masonry reinforcing bars. Comply with ACI 315. Show elevations of reinforced walls.
3. Fabricated Flashing: Detail corner units, end-dam units, and other special applications.

C. Samples for Initial Selection:

1. Weep holes/vents.

1.5 INFORMATIONAL SUBMITTALS

A. Material Certificates: For each type and size of the following:

1. Masonry units.
 - a. Include data on material properties and material test reports substantiating compliance with requirements.
 - b. For masonry units used in structural masonry, include data and calculations establishing average net-area compressive strength of units.
2. Integral water repellant used in CMUs.
3. Cementitious materials. Include name of manufacturer, brand name, and type.
4. Mortar admixtures.
5. Preblended, dry mortar mixes. Include description of type and proportions of ingredients.
6. Grout mixes. Include description of type and proportions of ingredients.
7. Reinforcing bars.
8. Joint reinforcement.
9. Anchors, ties, and metal accessories.

B. Mix Designs: For each type of mortar and grout. Include description of type and proportions of ingredients.

1. Include test reports for mortar mixes required to comply with property specification. Test in accordance with ASTM C109/C109M for compressive strength, ASTM C1506 for water retention, and ASTM C91/C91M for air content.
2. Include test reports, in accordance with ASTM C1019, for grout mixes required to comply with compressive strength requirement.

C. Statement of Compressive Strength of Masonry: For each combination of masonry unit type and mortar type, provide statement of average net-area compressive strength of masonry units, mortar type, and resulting net-area compressive strength of masonry determined in accordance with TMS 602/ACI 530.1/ASCE 6.

D. Cold-Weather Procedures: Detailed description of methods, materials, and equipment to be used to comply with requirements.

1.6 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Qualified in accordance with ASTM C1093 for testing indicated.
- B. Mockups: Build mockups to demonstrate aesthetic effects, and to set quality standards for materials and execution.

1. Build mockups for typical exterior and interior walls in sizes approximately 48 inches long by 48 inches high by full thickness, including face and backup wythes and accessories.
 - a. Include a sealant-filled joint at least 16 inches long in each exterior wall mockup.
 - b. Include lower corner of window opening at upper corner of exterior wall mockup. Make opening approximately 12 inches wide by 16 inches high.
 - c. Include through-wall flashing installed for a 24-inch length in corner of exterior wall mockup approximately 16 inches down from top of mockup, with a 12-inch length of flashing left exposed to view (omit masonry above half of flashing).
2. Protect accepted mockups from the elements with weather-resistant membrane.
3. Approval of mockups is for color, texture, and blending of masonry units; relationship of mortar and sealant colors to masonry unit colors; tooling of joints; and aesthetic qualities of workmanship.
 - a. Approval of mockups is also for other material and construction qualities specifically approved by Architect in writing.
 - b. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store masonry units on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied. If units become wet, do not install until they are dry.
- B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
- C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.
- D. Deliver preblended, dry mortar mix in moisture-resistant containers. Store preblended, dry mortar mix in delivery containers on elevated platforms in a dry location or in covered weatherproof dispensing silos.
- E. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.8 FIELD CONDITIONS

- A. Protection of Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.
 - 1. Extend cover a minimum of 24 inches down both sides of walls, and hold cover securely in place.
- B. Do not apply uniform floor or roof loads for at least 12 hours and concentrated loads for at least three days after building masonry walls or columns.
- C. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.
 - 1. Protect base of walls from rain-splashed mud and from mortar splatter by spreading coverings on ground and over wall surface.
 - 2. Protect sills, ledges, and projections from mortar droppings.
 - 3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
 - 4. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt onto completed masonry.
- D. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.
 - 1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F and higher and will remain so until masonry has dried, but not less than seven days after completing cleaning.
- E. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from single source from single manufacturer for each product required.

- B. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from single manufacturer for each cementitious component and from single source or producer for each aggregate.

2.2 PERFORMANCE REQUIREMENTS

- A. Provide structural unit masonry that develops indicated net-area compressive strengths at 28 days.
 - 1. Determine net-area compressive strength of masonry from average net-area compressive strengths of masonry units and mortar types (unit-strength method) in accordance with TMS 602/ACI 530.1/ASCE 6.
 - 2. Determine net-area compressive strength of masonry by testing masonry prisms in accordance with ASTM C1314.

2.3 UNIT MASONRY, GENERAL

- A. Masonry Standard: Comply with TMS 602/ACI 530.1/ASCE 6 except as modified by requirements in the Contract Documents.
- B. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated. Do not use units where such defects are exposed in the completed Work.

2.4 CONCRETE MASONRY UNITS

- A. Shapes: Provide shapes indicated and as follows, with exposed surfaces matching exposed faces of adjacent units unless otherwise indicated.
 - 1. Provide special shapes for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions.
 - 2. Provide bullnose units for outside corners unless otherwise indicated.
- B. CMUs: ASTM C90.
 - 1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 2000 psi.
 - 2. Density Classification: Normal weight.
 - 3. Size (Width): Manufactured to dimensions 3/8 inch less-than-nominal dimensions.
 - 4. Exposed Faces: Provide color and texture matching the range represented by Architect's sample.
 - 5. Faces to Receive Plaster: Where units are indicated to receive a direct application of plaster, provide textured-face units made with gap-graded aggregates.

2.5 MASONRY LINTELS

- A. General: Provide one of the following:
- B. Masonry Lintels: Prefabricated or built-in-place masonry lintels made from bond beam CMUs matching adjacent CMUs in color, texture, and density classification, with reinforcing bars placed as indicated and filled with coarse grout. Cure precast lintels before handling and installing. Temporarily support built-in-place lintels until cured.

2.6 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C150/C150M, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.
 - 1. Alkali content is not more than 0.1 percent when tested in accordance with ASTM C114.
- B. Hydrated Lime: ASTM C207, Type S.
- C. Portland Cement-Lime Mix: Packaged blend of portland cement and hydrated lime containing no other ingredients.
- D. Masonry Cement: ASTM C91/C91M.
- E. Mortar Cement: ASTM C1329/C1329M.
- F. Aggregate for Mortar: ASTM C144.
 - 1. For mortar that is exposed to view, use washed aggregate consisting of natural sand or crushed stone.
 - 2. For joints less than 1/4 inch thick, use aggregate graded with 100 percent passing the No. 16 sieve.
 - 3. White-Mortar Aggregates: Natural white sand or crushed white stone.
 - 4. Colored-Mortar Aggregates: Natural sand or crushed stone of color necessary to produce required mortar color.
- G. Aggregate for Grout: ASTM C404.
- H. Epoxy Pointing Mortar: ASTM C395, epoxy-resin-based material formulated for use as pointing mortar for glazed or pre-faced masonry units (and approved for such use by manufacturer of units); in color indicated or, if not otherwise indicated, as selected by Architect from manufacturer's colors.
- I. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C494/C494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.

- J. Water-Repellent Admixture: Liquid water-repellent mortar admixture intended for use with CMUs containing integral water repellent from same manufacturer.
- K. Water: Potable.

2.7 REINFORCEMENT

- A. Uncoated Steel Reinforcing Bars: ASTM A615/A615M or ASTM A996/A996M, Grade 60.
- B. Reinforcing Bar Positioners: Wire units designed to fit into mortar bed joints spanning masonry unit cells and to hold reinforcing bars in center of cells. Units are formed from 0.148-inch steel wire, hot-dip galvanized after fabrication. Provide units designed for number of bars indicated.
- C. Masonry-Joint Reinforcement, General: Ladder type complying with ASTM A951/A951M.
 - 1. Interior Walls: Hot-dip galvanized carbon steel.
 - 2. Exterior Walls: Hot-dip galvanized carbon steel.
 - 3. Wire Size for Side Rods: 0.148-inch diameter.
 - 4. Wire Size for Cross Rods: 0.148-inch diameter.
 - 5. Spacing of Cross Rods: Not more than 16 inches o.c.
 - 6. Provide in lengths of not less than 10 feet , with prefabricated corner and tee units.

2.8 TIES AND ANCHORS

- A. General: Ties and anchors extend at least 1-1/2 inches into masonry but with at least a 5/8-inch cover on outside face.
- B. Materials: Provide ties and anchors specified in this article that are made from materials that comply with the following unless otherwise indicated:
 - 1. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A82/A82M, with ASTM A153/A153M, Class B-2 coating.
 - 2. Stainless Steel Wire: ASTM A580/A580M, Type 304.
 - 3. Galvanized-Steel Sheet: ASTM A653/A653M, Commercial Steel, G60 zinc coating.
 - 4. Steel Sheet, Galvanized after Fabrication: ASTM A1008/A1008M, Commercial Steel, with ASTM A153/A153M, Class B coating.
 - 5. Stainless Steel Sheet: ASTM A240/A240M or ASTM A666, Type 304.
- C. Adjustable Anchors for Connecting to Structural Steel Framing: Provide anchors that allow vertical or horizontal adjustment but resist tension and compression forces perpendicular to plane of wall.
 - 1. Anchor Section for Welding to Steel Frame: Crimped 1/4-inch- diameter, hot-dip galvanized steel wire.
 - 2. Tie Section: Triangular-shaped wire tie made from 0.187-inch- diameter, wire.

- D. Partition Top Anchors: 0.105-inch- thick metal plate with a 3/8-inch- diameter metal rod 6 inches long welded to plate and with closed-end plastic tube fitted over rod that allows rod to move in and out of tube. Fabricate from steel, hot-dip galvanized after fabrication.
- E. Rigid Anchors: Fabricate from steel bars 1-1/2 inches wide by 1/4 inch thick by 24 inches long, with ends turned up 2 inches or with cross pins unless otherwise indicated.
 - 1. Corrosion Protection: Hot-dip galvanized to comply with ASTM A 153/A153M.

2.9 EMBEDDED FLASHING MATERIALS

- A. Metal Flashing: Provide metal flashing complying with SMACNA's "Architectural Sheet Metal Manual" and as follows:
 - 1. Stainless Steel: ASTM A240/A240M or ASTM A666, Type 304, 0.016 inch thick.
 - 2. Copper: ASTM B370, Temper H00, cold-rolled copper sheet, 16-oz./sq. ft. weight or 0.0216 inch thick or ASTM B370, Temper H01, high-yield copper sheet, 12-oz./sq. ft. weight or 0.0162 inch thick.
 - 3. Fabricate continuous flashings in sections 96 inches long minimum, but not exceeding 12 feet. Provide splice plates at joints of formed, smooth metal flashing.
 - 4. Fabricate through-wall metal flashing embedded in masonry from stainless steel, with ribs at 3-inch intervals along length of flashing to provide an integral mortar bond.
 - a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - 1) Cheney Flashing Company.
 - 2) Hohmann & Barnard, Inc.
 - 3) Keystone Flashing Company, Inc.
 - 5. Fabricate through-wall flashing with snaplock receiver on exterior face where indicated to receive counterflashing.
 - 6. Fabricate through-wall flashing with drip edge unless otherwise indicated. Fabricate by extending flashing 1/2 inch out from wall, with outer edge bent down 30 degrees and hemmed.
 - 7. Fabricate through-wall flashing with sealant stop unless otherwise indicated. Fabricate by bending metal back on itself 3/4 inch at exterior face of wall and down into joint 1/4 inch to form a stop for retaining sealant backer rod.
 - 8. Fabricate metal drip edges for ribbed metal flashing from plain metal flashing of same metal as ribbed flashing and extending at least 3 inches into wall with hemmed inner edge to receive ribbed flashing and form a hooked seam. Form hem on upper surface of metal so that completed seam sheds water.
 - 9. Fabricate metal drip edges from stainless steel. Extend at least 3 inches into wall and 1/2 inch out from wall, with outer edge bent down 30 degrees and hemmed.
 - 10. Fabricate metal expansion-joint strips from stainless steel to shapes indicated.

11. Solder metal items at corners.

B. Flexible Flashing: Use one of the following unless otherwise indicated:

1. Asphalt-Coated Copper Flashing: 7-oz./sq. ft. copper sheet coated with flexible asphalt. Use only where flashing is fully concealed in masonry.

a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- 1) Advanced Building Products Inc.
- 2) Hohmann & Barnard, Inc.
- 3) Wire-Bond.

2. Polyethylene-Coated Copper Flashing: 7-oz./sq. ft. copper sheet coated with flexible polyethylene. Use only where flashing is fully concealed in masonry.

a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- 1) Advanced Building Products Inc.
- 2) Hohmann & Barnard, Inc.
- 3) Wire-Bond.

C. Application: Unless otherwise indicated, use the following:

1. Where flashing is indicated to receive counterflashing, use metal flashing.
2. Where flashing is indicated to be turned down at or beyond the wall face, use metal flashing.
3. Where flashing is partly exposed and is indicated to terminate at the wall face, use metal flashing with a drip edge.
4. Where flashing is fully concealed, use.

D. Solder and Sealants for Sheet Metal Flashings: As specified in Section 07 62 00 "Sheet Metal Flashing and Trim."

E. Adhesives, Primers, and Seam Tapes for Flashings: Flashing manufacturer's standard products or products recommended by flashing manufacturer for bonding flashing sheets to each other and to substrates.

2.10 MISCELLANEOUS MASONRY ACCESSORIES

A. Compressible Filler: Premolded filler strips complying with ASTM D1056, Grade 2A1; compressible up to 35 percent; of width and thickness indicated; formulated from neoprene, urethane, or PVC.

- B. Preformed Control-Joint Gaskets: Made from PVC, complying with ASTM D2287, Type PVC-65406 and designed to fit standard sash block and to maintain lateral stability in masonry wall; size and configuration as indicated.
- C. Bond-Breaker Strips: Asphalt-saturated felt complying with ASTM D226/D226M, Type I (No. 15 asphalt felt).

2.11 MORTAR AND GROUT MIXES

- A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated.
 - 1. Do not use calcium chloride in mortar or grout.
 - 2. Use portland cement-lime mortar unless otherwise indicated.
 - 3. For exterior masonry, use portland cement-lime mortar.
 - 4. For reinforced masonry, use portland cement-lime mortar.
 - 5. Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.
- B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.
- C. Mortar for Unit Masonry: Comply with ASTM C270, Proportion Specification. Provide the following types of mortar for applications stated unless another type is indicated or needed to provide required compressive strength of masonry.
 - 1. For masonry below grade or in contact with earth, use Type S.
 - 2. For reinforced masonry, use Type S.
 - 3. For mortar parge coats, use Type S or Type N.
 - 4. For exterior, above-grade, load-bearing and nonload-bearing walls and parapet walls; for interior load-bearing walls; for interior nonload-bearing partitions; and for other applications where another type is not indicated, use Type N.
 - 5. For interior nonload-bearing partitions, Type O may be used instead of Type N.
- D. Grout for Unit Masonry: Comply with ASTM C476.
 - 1. Use grout of type indicated or, if not otherwise indicated, of type (fine or coarse) that will comply with TMS 602/ACI 530.1/ASCE 6 for dimensions of grout spaces and pour height.
 - 2. Proportion grout in accordance with ASTM C476, Table 1 or paragraph 4.2.2 for specified 28-day compressive strength indicated, but not less than 2500 psi.
 - 3. Provide grout with a slump of 8 to 11 inches as measured in accordance with ASTM C143/C143M.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
 - 1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
 - 2. Verify that foundations are within tolerances specified.
 - 3. Verify that reinforcing dowels are properly placed.
 - 4. Verify that substrates are free of substances that would impair mortar bond.
- B. Before installation, examine rough-in and built-in construction for piping systems to verify actual locations of piping.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Build chases and recesses to accommodate items specified in this and other Sections.
- B. Leave openings for equipment to be installed before completing masonry. After installing equipment, complete masonry to match construction immediately adjacent to opening.
- C. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

3.3 TOLERANCES

- A. Dimensions and Locations of Elements:
 - 1. For dimensions in cross section or elevation, do not vary by more than plus 1/2 inch or minus 1/4 inch.
 - 2. For location of elements in plan, do not vary from that indicated by more than plus or minus 1/2 inch.
 - 3. For location of elements in elevation, do not vary from that indicated by more than plus or minus 1/4 inch in a story height or 1/2 inch total.
- B. Lines and Levels:
 - 1. For bed joints and top surfaces of bearing walls, do not vary from level by more than 1/4 inch in 10 feet, or 1/2-inch maximum.

2. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2-inch maximum.
3. For vertical lines and surfaces do not vary from plumb by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2-inch maximum.
4. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2-inch maximum.
5. For lines and surfaces, do not vary from straight by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2-inch maximum.
6. For vertical alignment of exposed head joints, do not vary from plumb by more than 1/4 inch in 10 feet, or 1/2-inch maximum.
7. For faces of adjacent exposed masonry units, do not vary from flush alignment by more than 1/16 inch.

C. Joints:

1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch.
2. For exposed bed joints, do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch.
3. For head and collar joints, do not vary from thickness indicated by more than plus 3/8 inch or minus 1/4 inch.
4. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch.

3.4 LAYING MASONRY WALLS

- A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.
- B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in running bond; do not use units with less-than-nominal 4-inch horizontal face dimensions at corners or jambs.
- C. Lay concealed masonry with all units in a wythe in running bond or bonded by lapping not less than 4 inches. Bond and interlock each course of each wythe at corners. Do not use units with less-than-nominal 4-inch horizontal face dimensions at corners or jambs.
- D. Stopping and Resuming Work: Stop work by stepping back units in each course from those in course below; do not tooth. When resuming work, clean masonry surfaces that are to receive mortar, remove loose masonry units and mortar, and wet brick if required before laying fresh masonry.

- E. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.
- F. Fill space between steel frames and masonry solidly with mortar unless otherwise indicated.
- G. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath, wire mesh, or plastic mesh in the joint below, and rod mortar or grout into core.
- H. Fill cores in hollow CMUs with grout 24 inches under bearing plates, beams, lintels, posts, and similar items unless otherwise indicated.
- I. Build nonload-bearing interior partitions full height of story to underside of solid floor or roof structure above unless otherwise indicated.
 - 1. Install compressible filler in joint between top of partition and underside of structure above.
 - 2. Fasten partition top anchors to structure above and build into top of partition. Grout cells of CMUs solidly around plastic tubes of anchors and push tubes down into grout to provide 1/2-inch clearance between end of anchor rod and end of tube. Space anchors 48 inches o.c. unless otherwise indicated.
 - 3. Wedge nonload-bearing partitions against structure above with small pieces of tile, slate, or metal. Fill joint with mortar after dead-load deflection of structure above approaches final position.
 - 4. At fire-rated partitions, treat joint between top of partition and underside of structure above to comply with Section 07 84 43 "Joint Firestopping."

3.5 MORTAR BEDDING AND JOINTING

- A. Lay hollow CMUs as follows:
 - 1. Bed face shells in mortar and make head joints of depth equal to bed joints.
 - 2. Bed webs in mortar in all courses of piers, columns, and pilasters.
 - 3. Bed webs in mortar in grouted masonry, including starting course on footings.
 - 4. Fully bed entire units, including areas under cells, at starting course on footings where cells are not grouted.
- B. Lay solid CMUs with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.
- C. Set cast-stone trim units in full bed of mortar with full vertical joints. Fill dowel, anchor, and similar holes.
 - 1. Clean soiled surfaces with fiber brush and soap powder and rinse thoroughly with clear water.
 - 2. Wet joint surfaces thoroughly before applying mortar.
 - 3. Rake out mortar joints for pointing with sealant.

- D. Rake out mortar joints at pre-faced CMUs to a uniform depth of 1/4 inch and point with epoxy mortar to comply with epoxy-mortar manufacturer's written instructions.
- E. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.
- F. Cut joints flush for masonry walls to receive plaster or other direct-applied finishes (other than paint) unless otherwise indicated.
- G. Cut joints flush where indicated to receive waterproofing unless otherwise indicated.

3.6 MASONRY-JOINT REINFORCEMENT

- A. General: Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch on exterior side of walls, 1/2 inch elsewhere. Lap reinforcement a minimum of 6 inches.
 - 1. Space reinforcement not more than 16 inches o.c.
 - 2. Space reinforcement not more than 8 inches o.c. in foundation walls and parapet walls.
 - 3. Provide reinforcement not more than 8 inches above and below wall openings and extending 12 inches beyond openings in addition to continuous reinforcement.
- B. Interrupt joint reinforcement at control and expansion joints unless otherwise indicated.
- C. Provide continuity at wall intersections by using prefabricated T-shaped units.
- D. Provide continuity at corners by using prefabricated L-shaped units.
- E. Cut and bend reinforcing units as directed by manufacturer for continuity at corners, returns, offsets, column fireproofing, pipe enclosures, and other special conditions.

3.7 ANCHORING MASONRY TO STRUCTURAL STEEL AND CONCRETE

- A. Anchor masonry to structural steel and concrete, where masonry abuts or faces structural steel or concrete, to comply with the following:
 - 1. Provide an open space not less than 1/2 inch wide between masonry and structural steel or concrete unless otherwise indicated. Keep open space free of mortar and other rigid materials.
 - 2. Anchor masonry with anchors embedded in masonry joints and attached to structure.
 - 3. Space anchors as indicated, but not more than 24 inches o.c. vertically and 36 inches o.c. horizontally.

3.8 CONTROL AND EXPANSION JOINTS

- A. General: Install control- and expansion-joint materials in unit masonry as masonry progresses. Do not allow materials to span control and expansion joints without provision to allow for in-plane wall or partition movement.
- B. Form control joints in concrete masonry as follows:
 - 1. Install preformed control-joint gaskets designed to fit standard sash block.

3.9 LINTELS

- A. Provide masonry lintels where shown and where openings of more than 12 inches for brick-size units and 24 inches for block-size units are shown without structural steel or other supporting lintels.
- B. Provide minimum bearing of 8 inches at each jamb unless otherwise indicated.

3.10 FLASHING

- A. General: Install embedded flashing at ledges and other obstructions to downward flow of water in wall where indicated.
- B. Install flashing as follows unless otherwise indicated:
 - 1. Prepare masonry surfaces so they are smooth and free from projections that could puncture flashing. Where flashing is within mortar joint, place through-wall flashing on sloping bed of mortar and cover with mortar. Before covering with mortar, seal penetrations in flashing with adhesive, sealant, or tape as recommended by flashing manufacturer.
 - 2. At lintels, extend flashing a minimum of 6 inches into masonry at each end. At heads and sills, extend flashing 6 inches at ends and turn up not less than 2 inches to form end dams.
 - 3. Interlock end joints of ribbed sheet metal flashing by overlapping ribs not less than 1-1/2 inches or as recommended by flashing manufacturer, and seal lap with elastomeric sealant complying with requirements in Section 07 92 00 "Joint Sealants" for application indicated.
 - 4. Install metal drip edges with ribbed sheet metal flashing by interlocking hemmed edges to form hooked seam. Seal seam with elastomeric sealant complying with requirements in Section 07 92 00 "Joint Sealants" for application indicated.
 - 5. Install metal drip edges beneath flexible flashing at exterior face of wall. Stop flexible flashing 1/2 inch back from outside face of wall, and adhere flexible flashing to top of metal drip edge.
 - 6. Install metal flashing termination beneath flexible flashing at exterior face of wall. Stop flexible flashing 1/2 inch back from outside face of wall, and adhere flexible flashing to top of metal flashing termination.

7. Cut flexible flashing off flush with face of wall after masonry wall construction is completed.

- C. Install reglets and nailers for flashing and other related construction where they are shown to be built into masonry.

3.11 REINFORCED UNIT MASONRY

- A. Temporary Formwork and Shores: Construct formwork and shores as needed to support reinforced masonry elements during construction.

1. Construct formwork to provide shape, line, and dimensions of completed masonry as indicated. Make forms sufficiently tight to prevent leakage of mortar and grout. Brace, tie, and support forms to maintain position and shape during construction and curing of reinforced masonry.
2. Do not remove forms and shores until reinforced masonry members have hardened sufficiently to carry their own weight and other loads that may be placed on them during construction.

- B. Placing Reinforcement: Comply with requirements in TMS 602/ACI 530.1/ASCE 6.

- C. Grouting: Do not place grout until entire height of masonry to be grouted has attained enough strength to resist grout pressure.

1. Comply with requirements in TMS 602/ACI 530.1/ASCE 6 for cleanouts and for grout placement, including minimum grout space and maximum pour height.
2. Limit height of vertical grout pours to not more than 60 inches.

3.12 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner will engage special inspectors to perform tests and inspections and prepare reports. Allow inspectors access to scaffolding and work areas as needed to perform tests and inspections. Retesting of materials that fail to comply with specified requirements is done at Contractor's expense.

- B. Inspections: Special inspections in accordance with Level B in TMS 402/ACI 530/ASCE 5.

1. Begin masonry construction only after inspectors have verified proportions of site-prepared mortar.
2. Place grout only after inspectors have verified compliance of grout spaces and of grades, sizes, and locations of reinforcement.
3. Place grout only after inspectors have verified proportions of site-prepared grout.

- C. Testing Prior to Construction: One set of tests.

- D. Testing Frequency: One set of tests for each 5000 sq. ft. of wall area or portion thereof.

- E. Concrete Masonry Unit Test: For each type of unit provided, in accordance with ASTM C140 for compressive strength.
- F. Mortar Aggregate Ratio Test (Proportion Specification): For each mix provided, in accordance with ASTM C780.
- G. Mortar Test (Property Specification): For each mix provided, in accordance with ASTM C780. Test mortar for compressive strength.
- H. Grout Test (Compressive Strength): For each mix provided, in accordance with ASTM C1019.
- I. Prism Test: For each type of construction provided, in accordance with ASTM C1314 at 7 days and at 28 days.

3.13 PARGING

- A. Parge exterior faces of below-grade masonry walls, where indicated, in two uniform coats to a total thickness of 3/4 inch. Dampen wall before applying first coat, and scarify first coat to ensure full bond to subsequent coat.
- B. Use a steel-trowel finish to produce a smooth, flat, dense surface with a maximum surface variation of 1/8 inch per foot. Form a wash at top of parging and a cove at bottom.
- C. Damp-cure parging for at least 24 hours and protect parging until cured.

3.14 REPAIRING, POINTING, AND CLEANING

- A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Install new units to match adjoining units; install in fresh mortar, pointed to eliminate evidence of replacement.
- B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for sealant application, where indicated.
- C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
- D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
 - 1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
 - 2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of masonry.

3. Protect adjacent stone and nonmasonry surfaces from contact with cleaner by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape.
4. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.
5. Clean concrete masonry by applicable cleaning methods indicated in NCMA TEK 8-4A.

3.15 MASONRY WASTE DISPOSAL

- A. Salvageable Materials: Unless otherwise indicated, excess masonry materials are Contractor's property. At completion of unit masonry work, remove from Project site.
- B. Waste Disposal as Fill Material: Dispose of clean masonry waste, including excess or soil-contaminated sand, waste mortar, and broken masonry units, by crushing and mixing with fill material as fill is placed.
 1. Crush masonry waste to less than 4 inches in each dimension.
 2. Mix masonry waste with at least two parts of specified fill material for each part of masonry waste. Fill material is specified in Section 31 20 00 "Earth Moving."
 3. Do not dispose of masonry waste as fill within 18 inches of finished grade.
- C. Masonry Waste Recycling: Return broken CMUs not used as fill to manufacturer for recycling.
- D. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above or recycled, and other masonry waste, and legally dispose of off Owner's property.

END OF SECTION 04 22 00

SECTION 04 26 13 - MASONRY VENEER

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Brick.
2. Mortar materials.
3. Ties and anchors.
4. Embedded flashing.
5. Accessories.
6. Mortar mixes.

B. Products Installed but not Furnished under This Section:

1. Steel lintels in masonry veneer.
2. Steel shelf angles for supporting masonry veneer.

C. Related Requirements:

1. Section 01 43 39 "Mockups" for integrated exterior mockup requirements.
2. Section 07 62 00 "Sheet Metal Flashing and Trim" for [exposed] sheet metal flashing and for furnishing manufactured reglets installed in masonry joints.

1.2 DEFINITIONS

- A. CMU(s): Concrete masonry unit(s).

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.

- B. Shop Drawings: For the following:

1. Masonry Units: Indicate sizes, profiles, coursing, and locations of special shapes.
2. Fabricated Flashing: Detail corner units, end-dam units, and other special applications.

C. Samples for Initial Selection:

1. Clay face brick, in the form of straps of five or more bricks.
2. Colored mortar.
3. Weep/cavity vents.

1.5 INFORMATIONAL SUBMITTALS

A. List of Materials Used in Constructing Mockups: List generic product names together with manufacturers, manufacturers' product names, model numbers, lot numbers, batch numbers, source of supply, and other information as required to identify materials used. Include mix proportions for mortar and grout and source of aggregates.

1. Submittal is for information only. Receipt of list does not constitute approval of deviations from the Contract Documents unless such deviations are specifically brought to the attention of Architect and approved in writing.

B. Material Certificates: For each type and size of the following:

1. Masonry units.
 - a. Include material test reports substantiating compliance with requirements.
 - b. For brick, include size-variation data verifying that actual range of sizes falls within specified tolerances.
 - c. For exposed brick, include test report for efflorescence in accordance with ASTM C67/C67M.
 - d. For surface-coated brick, include test report for durability of surface appearance after 50 cycles of freezing and thawing in accordance with ASTM C67/C67M.
2. Integral water repellant used in decorative CMUs.
3. Cementitious materials. Include name of manufacturer, brand name, and type.
4. Mortar admixtures.
5. Preblended, dry mortar mixes. Include description of type and proportions of ingredients.
6. Anchors, ties, and metal accessories.

C. Mix Designs: For each type of mortar. Include description of type and proportions of ingredients.

1. Include test reports for mortar mixes required to comply with property specification. Test in accordance with ASTM C109/C109M for compressive strength, ASTM C1506 for water retention, and ASTM C91/C91M for air content.

D. Cold-Weather and Hot-Weather Procedures: Detailed description of methods, materials, and equipment to be used to comply with requirements.

1.6 MOCKUPS

- A. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, to set quality standards for materials and execution, and to set quality standards for installation. See Section 01 43 39 "Mockups" for additional construction requirements for integrated exterior mockups.
1. Build mockups for typical exterior wall in sizes approximately 48 inches long by 48 inches high by full thickness, including face and backup wythes and accessories.
 - a. Include a sealant-filled joint at least 16 inches long in mockup.
 - b. Include lower corner of window opening at upper corner of exterior wall mockup. Make opening approximately 12 inches wide by 16 inches high.
 - c. Include through-wall flashing installed for a 24-inch length in corner of exterior wall mockup approximately 16 inches down from top of mockup, with a 12-inch length of flashing left exposed to view (omit masonry above half of flashing).
 - d. Include metal studs, sheathing, water-resistive barrier, air barrier, veneer anchors, flashing, cavity drainage material, and weep holes in exterior masonry-veneer wall mockup.
 2. Where masonry is to match existing, erect mockups adjacent and parallel to existing surface.
 3. Clean one-half of exposed faces of mockups with masonry cleaner as indicated.
 4. Protect accepted mockups from the elements with weather-resistant membrane.
 5. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 6. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store masonry units on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied. If units become wet, do not install until they are dry.
- B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
- C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.
- D. Deliver preblended, dry mortar mix in moisture-resistant containers. Store preblended, dry mortar mix in delivery containers on elevated platforms in a dry location or in covered weatherproof dispensing silos.
- E. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.8 FIELD CONDITIONS

- A. Protection of Masonry: During construction, cover tops of veneer, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.
 - 1. Extend cover a minimum of 24 inches down face of veneer, and hold cover securely in place.
- B. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry. Immediately remove grout, mortar, and soil that come in contact with masonry.
 - 1. Protect base of walls from rain-splashed mud and from mortar splatter by spreading coverings on ground and over wall surface.
 - 2. Protect sills, ledges, and projections from mortar droppings.
 - 3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
 - 4. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt onto completed masonry.
- C. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in TMS 602.
 - 1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F and higher and will remain so until masonry has dried, but not less than seven days after completing cleaning.
- D. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in TMS 602.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

- A. Obtain exposed masonry units, cementitious mortar components, and mortar aggregate from single source.
- B. For exposed masonry units and cementitious mortar components, obtain each color and grade from single source with resources to provide materials of consistent quality in appearance and physical properties.

2.2 UNIT MASONRY, GENERAL

- A. Masonry Standard: Comply with TMS 602, except as modified by requirements in the Contract Documents.
- B. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated. Do not use units where such defects will be exposed in the completed Work.

2.3 BRICK

- A. General: Provide shapes indicated and as follows, with exposed surfaces matching finish and color of exposed faces of adjacent units.
 - 1. For ends of sills and caps and for similar applications that would otherwise expose unfinished brick surfaces, provide units without cores or frogs and with exposed surfaces finished.
 - 2. Provide special shapes for applications where stretcher units cannot accommodate special conditions, including corners, movement joints, bond beams, sashes, and lintels.
- B. Clay Face Brick: Facing brick complying with ASTM C216 or hollow brick complying with ASTM C652, Class H40V (void areas between 25 and 40 percent of gross cross-sectional area), Grade SW, Type FBX.
 - 1. Manufacturers: Subject to compliance with requirements, provide the product indicated in below or comparable product by one of the following:
 - a. Watson town Brick Co.
 - b. Hebron Brick Co.
 - c. Belden Brick Company (The).
 - d. Endicott Clay Products Co.
 - e. Glen-Gery Corporation.
 - f. Or Architect approved equal.
 - 2. Initial Rate of Absorption: Less than 30 g/30 sq. in. per minute when tested in accordance with ASTM C67/C67M.
 - 3. Efflorescence: Provide brick that has been tested in accordance with ASTM C67/C67M and is rated "not effloresced."
 - 4. Surface Coating: Brick with colors or textures produced by application of coatings withstand 50 cycles of freezing and thawing in accordance with ASTM C67/C67M with no observable difference in the applied finish when viewed from 10 ft..
 - 5. Size (Actual Dimensions): As indicated in Section 09 01 00 "Material Finish Schedule".
 - 6. Application: Use where brick is exposed unless otherwise indicated.
 - 7. Where shown to "match existing," provide clay face brick matching color range, texture, and size of existing adjacent brickwork.

8. Color and Texture (see Drawings for locations):
 - a. BRICK-1: Livonia Fire Station #6 37876 Plymouth Rd.
 - 1) Manufacturer - Hebron Brick Co.
 - 2) Color - Prairie Commons
 - 3) Size - Modular (3-5/8"x2-1/4"x7-5/8")
 - 4) Texture - Heritage Sanded
 - 5) ASTM - C216 Grade SW Type FBS
 - b. BRICK-2: Livonia Fire Station #3 35000 N. Bicentennial Dr.
 - 1) Manufacturer - Watsontown Brick Co.
 - 2) Color - Hermitage
 - 3) Size - Modular (3-5/8"x2-1/4"x7-5/8")
 - 4) Texture - Sanded
 - 5) ASTM - C216 Grade SW Type FBS

2.4 MORTAR MATERIALS

- A. Portland Cement: ASTM C150/C150M, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.
 1. Alkali content will not be more than 0.1 percent when tested in accordance with ASTM C114.
- B. Hydrated Lime: ASTM C207, Type S.
- C. Portland Cement-Lime Mix: Packaged blend of portland cement and hydrated lime containing no other ingredients.
- D. Masonry Cement: ASTM C91/C91M.
- E. Mortar Cement: ASTM C1329/C1329M.
- F. Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes and complying with ASTM C979/C979M. Use only pigments with a record of satisfactory performance in masonry mortar.
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Davis Colors.
 - b. Euclid Chemical Company (The); an RPM company.
 - c. Lanxess Corporation.
 - d. Solomon Colors Inc.
- G. Colored Cement Products: Packaged blend made from portland cement and hydrated lime mortar cement and mortar pigments, all complying with specified requirements, and containing no other ingredients.

1. Colored Portland Cement-Lime Mix:
 - a. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) Capital Materials Corporation.
 - 2) Holcim (US) Inc.
 - 3) Lafarge North America Inc.
 - 4) Lehigh Cement Company.
 2. Formulate blend as required to produce color indicated or, if not indicated, as selected from manufacturer's standard colors.
 3. Pigments do not exceed 10 percent of portland cement by weight.
 4. Pigments do not exceed 5 percent of mortar cement by weight.
- H. Aggregate for Mortar: ASTM C144.
1. For mortar that is exposed to view, use washed aggregate consisting of natural sand or crushed stone.
 2. For joints less than 1/4 inch thick, use aggregate graded with 100 percent passing the No. 16 sieve.
 3. White-Mortar Aggregates: Natural white sand or crushed white stone.
 4. Colored-Mortar Aggregates: Natural sand or crushed stone of color necessary to produce required mortar color.
- I. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C494/C494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Euclid Chemical Company (The); an RPM company.
 - b. GCP Applied Technologies Inc.
- J. Water-Repellent Admixture: Liquid water-repellent mortar admixture intended for use with CMUs containing integral water repellent from same manufacturer.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. ACM Chemistries.
 - b. Euclid Chemical Company (The); an RPM company.
 - c. GCP Applied Technologies Inc.
- K. Water: Potable.

2.5 TIES AND ANCHORS

- A. General: Ties and anchors extend at least 1-1/2 inches into veneer but with at least a 5/8-inch cover on outside face.
- B. Materials: Provide ties and anchors specified in this article that are made from materials that comply with the following unless otherwise indicated:
 - 1. Mill-Galvanized, Carbon-Steel Wire: ASTM A1064/A1064M, with ASTM A641/A641M, Class 1 coating.
 - 2. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A1064/A1064M, with ASTM A153/A153M, Class B-2 coating.
 - 3. Stainless Steel Wire: ASTM A580/A580M, Type 304.
 - 4. Galvanized-Steel Sheet: ASTM A653/A653M, Commercial Steel, G60 zinc coating.
 - 5. Steel Sheet, Galvanized after Fabrication: ASTM A1008/A1008M, Commercial Steel, with ASTM A153/A153M, Class B coating.
 - 6. Stainless Steel Sheet: ASTM A240/A240M or ASTM A666, Type 304.
- C. Adjustable Masonry-Veneer Anchors:
 - 1. General: Provide anchors that allow vertical adjustment but resist a 100 lbf load in both tension and compression perpendicular to plane of wall without deforming or developing play in excess of 1/16 inch.
 - 2. Basis of Design Product: Heckmann Building Products Pos-I-Tie ThermalClip
 - a. Masonry Anchors:
 - 1) Anchors to Concrete: No. 75: Heckmann "Pos-I-Tie" Concrete/CMU Screw.
 - 2) Anchors to Masonry Backup: No. 75: Heckmann "Pos- I-Tie" Concrete/CMU Screw.
 - 3) Anchors to Metal Stud Backup: No. 75: Heckmann "Pos-I-Tie" Self-Drilling Screw.
 - 4) Anchors to Structural Steel: No. 75: Heckmann "Pos- I-Tie" Dril-It Screw.
 - 5) Anchors to Wood Stud Backup: No. 75: Heckmann "Pos- I-Tie" Concrete/CMU Screw.
 - b. Pos-I-Tie Thermal Clip:
 - 1) One-Piece Snap-On Proprietary plastic clip for barrel loop of Original Pos-I-Tie to create a thermal break between the wire tie in veneer and the barrel in the backup.
 - c. Masonry Ties:
 - 1) Masonry Veneer Ties: Provide minimum 2 inches (50 mm) embedment in mortar.

- 2) Masonry Veneer Seismic Ties: Continuous wire in mortar joint, anchored to Pos-I-Tie Triangle Tie with welded No. 370 Seismic clip.
3. Fabricate sheet metal anchor sections and other sheet metal parts from 0.0785-inch-thick steel sheet, galvanized after fabrication.
4. Fabricate wire ties from 0.187-inch- diameter, hot-dip galvanized steel wire unless otherwise indicated.
5. Contractor's Option: Unless otherwise indicated, provide any of the adjustable masonry-veneer anchors specified.

2.6 EMBEDDED FLASHING

A. Metal Flashing: Provide metal flashing complying with SMACNA's "Architectural Sheet Metal Manual" and as follows:

1. Stainless Steel: ASTM A240/A240M or ASTM A666, Type 304, 0.016 inch thick.
2. Fabricate continuous flashings in sections 96 inches long minimum, but not exceeding 12 ft.. Provide splice plates at joints of formed, smooth metal flashing.
3. Fabricate through-wall metal flashing embedded in masonry from stainless steel, with ribs at 3-inch intervals along length of flashing to provide an integral mortar bond.
 - a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - 1) Cheney Flashing Company.
 - 2) Hohmann & Barnard, Inc.
 - 3) Keystone Flashing Company, Inc.
4. Fabricate through-wall flashing with snaplock receiver on exterior face where indicated to receive counterflashing.
5. Fabricate through-wall flashing with drip edge unless otherwise indicated. Fabricate by extending flashing 1/2 inch out from wall, with outer edge bent down 30 degrees and hemmed.
6. Fabricate through-wall flashing with sealant stop unless otherwise indicated. Fabricate by bending metal back on itself 3/4 inch at exterior face of wall and down into joint 1/4 inch to form a stop for retaining sealant backer rod.
7. Fabricate metal drip edges for sawtooth metal flashing from plain metal flashing of same metal as sawtooth flashing and extending at least 3 inches into wall with hemmed inner edge to receive sawtooth flashing and form a hooked seam. Form hem on upper surface of metal so that completed seam sheds water.
8. Fabricate metal drip edges from stainless steel. Extend at least 3 inches into wall and 1/2 inch out from wall, with outer edge bent down 30 degrees and hemmed.
9. Fabricate metal sealant stops from stainless steel. Extend at least 3 inches into wall and out to exterior face of wall. At exterior face of wall, bend metal back on itself for 3/4 inch and down into joint 1/4 inch to form a stop for retaining sealant backer rod.

10. Fabricate metal expansion-joint strips from stainless steel to shapes indicated.
 11. Solder metal items at corners.
- B. Flexible Flashing: Use one of the following unless otherwise indicated:
1. Asphalt-Coated Copper Fabric Flashing: 7 oz./sq. ft. copper sheet bonded between two layers of glass-fiber cloth. Use only where flashing is fully concealed in masonry.
 - a. Products: Subject to compliance with requirements, provide one of the following:
 - 1) Advanced Building Products Inc.; Cop-R-Cote.
 - 2) Dayton Superior Corporation, Dur-O-Wal Division; Copper Coated Thru-Wall Flashing.
 - 3) Hohmann & Barnard, Inc.; H & B C-Coat Flashing.
 - 4) Phoenix Building Products; Type ACC-Asphalt Bituminous Coated.
 - 5) Sandell Manufacturing Co., Inc.; Coated Copper Flashing.
 2. Rubberized-Asphalt Flashing: Composite flashing product consisting of a pliable, adhesive rubberized-asphalt compound, bonded to a high-density, cross-laminated polyethylene film to produce an overall thickness of not less than 30 mil.
 - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Advanced Building Products Inc.
 - 2) Carlisle Coatings & Waterproofing Inc.
 - 3) Fiberweb, Clark Hammerbeam Corp.
 - 4) Grace Construction Products; W.R. Grace & Co. -- Conn.
 - 5) Heckmann Building Products, Inc.
 - 6) Hohmann & Barnard, Inc.
 - 7) Polyguard Products, Inc.
 - 8) W.R. Meadows, Inc.
 - 9) Williams Products, Inc.
 - b. Accessories: Provide preformed corners, end dams, other special shapes, and seaming materials produced by flashing manufacturer.
 - C. Solder and Sealants for Sheet Metal Flashings: As specified in Section 07 62 00 "Sheet Metal Flashing and Trim."
 - D. Adhesives, Primers, and Seam Tapes for Flashings: Flashing manufacturer's standard products or products recommended by flashing manufacturer for bonding flashing sheets to each other and to substrates.
 - E. Termination Bars for Flexible Flashing: Stainless steel steel bars 1/8 inch by 1 inch.

2.7 ACCESSORIES

- A. Compressible Filler: Premolded filler strips complying with ASTM D1056, Grade 2A1; compressible up to 35 percent; of width and thickness indicated; formulated from neoprene, urethane, or PVC.
- B. Proprietary Acidic Masonry Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Diedrich Technologies, Inc.
 - b. EaCo Chem, Inc.
 - c. ProSoCo, Inc.

2.8 MORTAR MIXES

- A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated.
 - 1. Do not use calcium chloride in mortar or grout.
 - 2. Use portland cement-lime mortar unless otherwise indicated.
 - 3. Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.
- B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.
- C. Mortar for Unit Masonry: Comply with ASTM C270, Proportion Specification. Use Type N unless another type is indicated.
 - 1. For masonry below grade or in contact with earth, use Type S.
- D. Colored-Aggregate Mortar: Produce required mortar color by using colored aggregates and natural color or white cement as necessary to produce required mortar color.
 - 1. Application: Use colored-aggregate mortar for exposed mortar joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
 - 1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Leave openings for equipment to be installed before completing masonry. After installing equipment, complete masonry to match the construction immediately adjacent to opening.
- B. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.
- C. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures. Mix units from several pallets or cubes as they are placed.
- D. Matching Existing Masonry: Match coursing, bonding, color, and texture of existing masonry.
- E. Wetting of Brick: Wet brick before laying if initial rate of absorption exceeds 30 g/30 sq. in. per minute when tested in accordance with ASTM C67/C67M. Allow units to absorb water so they are damp but not wet at time of laying.

3.3 TOLERANCES

- A. Dimensions and Locations of Elements:
 - 1. For dimensions in cross section or elevation, do not vary by more than plus 1/2 inch or minus 1/4 inch.
 - 2. For location of elements in plan, do not vary from that indicated by more than plus or minus 1/2 inch.
 - 3. For location of elements in elevation, do not vary from that indicated by more than plus or minus 1/4 inch in a story height or 1/2 inch total.
- B. Lines and Levels:

1. For bed joints and top surfaces of bearing walls, do not vary from level by more than 1/4 inch in 10 ft., or 1/2-inch maximum.
2. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 ft., 1/4 inch in 20 ft., or 1/2-inch maximum.
3. For vertical lines and surfaces, do not vary from plumb by more than 1/4 inch in 10 ft., 3/8 inch in 20 ft., or 1/2-inch maximum.
4. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 ft., 1/4 inch in 20 ft., or 1/2-inch maximum.
5. For lines and surfaces, do not vary from straight by more than 1/4 inch in 10 ft., 3/8 inch in 20 ft., or 1/2-inch maximum.
6. For vertical alignment of exposed head joints, do not vary from plumb by more than 1/4 inch in 10 ft., or 1/2-inch maximum.
7. For faces of adjacent exposed masonry units, do not vary from flush alignment by more than 1/16 inch except due to warpage of masonry units within tolerances specified for warpage of units.

C. Joints:

1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch.
2. For exposed bed joints, do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch.
3. For head and collar joints, do not vary from thickness indicated by more than plus 3/8 inch or minus 1/4 inch.
4. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch. Do not vary from adjacent bed-joint and head-joint thicknesses by more than 1/8 inch.
5. For exposed bed joints and head joints of stacked bond, do not vary from a straight line by more than 1/16 inch from one masonry unit to the next.

3.4 LAYING MASONRY WALLS

- A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.
- B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in running bond and stack bond as noted on the drawings; do not use units with less-than-nominal 4-inch horizontal face dimensions at corners or jambs.
- C. Stopping and Resuming Work: Stop work by stepping back units in each course from those in course below; do not tooth. When resuming work, clean masonry surfaces that are to receive mortar, remove loose masonry units and mortar, and wet brick if required before laying fresh masonry.

- D. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.
- E. Fill space between steel frames and masonry solidly with mortar unless otherwise indicated.

3.5 MORTAR BEDDING AND JOINTING

- A. Lay masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.
- B. Lay hollow brick with face shells fully bedded in mortar and with head joints of depth equal to bed joints. At starting course, fully bed entire units, including area under cells.
 - 1. At anchors and ties, fully bed units and fill cells with mortar as needed to fully embed anchors and ties in mortar.
- C. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.

3.6 ANCHORED MASONRY VENEERS

- A. Anchor masonry veneers to concrete and masonry backup with masonry-veneer anchors to comply with the following requirements:
 - 1. Embed tie sections in masonry joints.
 - 2. Locate anchor sections to allow maximum vertical differential movement of ties up and down.
 - 3. Space anchors as indicated, but not more than 16 inches o.c. vertically and 25 inches o.c. horizontally, with not less than one anchor for each 2.67 sq. ft. of wall area. Install additional anchors within 12 inches of openings and at intervals, not exceeding 36 inches, around perimeter.
- B. Provide not less than 1 inch of airspace between back of masonry veneer and face of insulation.
 - 1. Keep airspace clean of mortar droppings and other materials during construction. Bevel beds away from airspace, to minimize mortar protrusions into airspace. Do not attempt to trowel or remove mortar fins protruding into airspace.

3.7 EXPANSION JOINTS

- A. General: Install expansion-joint materials in unit masonry as masonry progresses. Do not allow materials to span expansion joints without provision to allow for in-plane wall or partition movement.

- B. Provide horizontal, pressure-relieving joints by either leaving an airspace or inserting a compressible filler of width required for installing sealant and backer rod specified in Section 07 92 00 "Joint Sealants," but not less than 3/8 inch.

- 1. Locate horizontal, pressure-relieving joints beneath shelf angles supporting masonry.

3.8 LINTELS

- A. Install steel lintels where indicated.
- B. Provide offset angle supports where indicated and where openings of more than 12 inches for brick-size units and 24 inches for block-size units are indicated without structural steel or other supporting lintels.
- C. Provide minimum bearing of 8 inches at each jamb unless otherwise indicated.

3.9 FLASHING, WEEP HOLES, AND VENTS

- A. General: Install embedded flashing and weep holes in masonry at shelf angles, lintels, ledges, other obstructions to downward flow of water in wall, and where indicated. Install vents at shelf angles, ledges, and other obstructions to upward flow of air in cavities, and where indicated.
- B. Install flashing as follows unless otherwise indicated:
 - 1. Prepare masonry surfaces so they are smooth and free from projections that could puncture flashing. Where flashing is within mortar joint, place through-wall flashing on sloping bed of mortar and cover with mortar. Before covering with mortar, seal penetrations in flashing with adhesive, sealant, or tape as recommended by flashing manufacturer.
 - 2. Extend flashing through veneer, across airspace behind veneer, and up face of masonry backup at least 8 inches; with upper edge tucked under self-adhered flashing tape, lapping at least 4 inches.
 - 3. At lintels and shelf angles, extend flashing 6 inches minimum at each end. At heads and sills, extend flashing 6 inches minimum and turn ends up not less than 2 inches to form end dams.
 - 4. Interlock end joints of sawtooth sheet metal flashing by overlapping ribs not less than 1-1/2 inches or as recommended by flashing manufacturer, and seal lap with elastomeric sealant complying with requirements in Section 07 92 00 "Joint Sealants" for application indicated.
 - 5. Install metal drip edges beneath flexible flashing at exterior face of wall. Stop flexible flashing 1/2 inch back from outside face of wall, and adhere flexible flashing to top of metal drip edge.
- C. Install reglets and nailers for flashing and other related construction where they are indicated to be built into masonry.

- D. Install weep holes in veneers in head joints of first course of masonry immediately above embedded flashing.
 - 1. Use specified weep/cavity vent products to form weep holes.
 - 2. Space weep holes 24 inches o.c. unless otherwise indicated.
- E. Place cavity drainage material in airspace behind veneers to comply with configuration requirements for cavity drainage material in "Accessories" Article.
- F. Install vents in head joints in exterior wythes at spacing indicated. Use specified weep/cavity vent products to form vents.
 - 1. Close cavities off vertically and horizontally with blocking in manner indicated. Install through-wall flashing and weep holes above horizontal blocking.

3.10 REPAIRING, POINTING, AND CLEANING

- A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Install new units to match adjoining units; install in fresh mortar, pointed to eliminate evidence of replacement.
- B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for sealant application, where indicated.
- C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
- D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
 - 1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
 - 2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of masonry.
 - 3. Protect adjacent stone and nonmasonry surfaces from contact with cleaner by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape.
 - 4. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.
 - 5. Clean brick by bucket-and-brush hand-cleaning method described in BIA Technical Notes 20.
 - 6. Clean masonry with a proprietary acidic cleaner applied according to manufacturer's written instructions.

3.11 MASONRY WASTE DISPOSAL

- A. Salvageable Materials: Unless otherwise indicated, excess masonry materials are Contractor's property. At completion of unit masonry work, remove from Project site.
- B. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above or recycled, and other masonry waste, and legally dispose of off Owner's property.

END OF SECTION 04 26 13

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SECTION 07 92 00 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Silicone joint sealants.

B. Related Requirements:

1.2 ACTION SUBMITTALS

A. Product Data:

1. Joint sealants.
2. Joint-sealant backing materials.

B. Samples for Initial Selection: Manufacturer's standard color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

C. Joint-Sealant Schedule: Include the following information:

1. Joint-sealant application, joint location, and designation.
2. Joint-sealant manufacturer and product name.
3. Joint-sealant formulation.
4. Joint-sealant color.

1.3 INFORMATIONAL SUBMITTALS

A. Sample warranties.

1.4 CLOSEOUT SUBMITTALS

A. Manufacturers' special warranties.

B. Installer's special warranties.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Authorized representative who is trained and approved by manufacturer.

1.6 MOCKUPS

- A. Install sealant in mockups of assemblies specified in other Sections that are indicated to receive joint sealants specified in this Section. Use materials and installation methods specified in this Section.

1.7 FIELD CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
 - 1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.
 - 2. When joint substrates are wet.
 - 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 - 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.8 WARRANTY

- A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Two years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Five years from date of Substantial Completion.
- C. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:
 - 1. Movement of the structure caused by stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
 - 2. Disintegration of joint substrates from causes exceeding design specifications.
 - 3. Mechanical damage caused by individuals, tools, or other outside agents.
 - 4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 SILICONE JOINT SEALANTS

- A. Basis of Design: Sika Corporation Sikafil-WS295 or Dow Chemical Neutral Cure 795.
- B. Silicone, S, NS, 100/50, NT: Single-component, nonsag, plus 100 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C920, Type S, Grade NS, Class 100/50, Use NT.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. GE Construction Sealants; Momentive Performance Materials Inc.
 - b. Master Builders Solutions.
 - c. Pecora Corporation.
 - d. Sika Corporation; Joint Sealants.
 - e. The Dow Chemical Company.
- C. Silicone, S, NS, 50, NT: Single-component, nonsag, plus 50 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C920, Type S, Grade NS, Class 50, Use NT.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. GE Construction Sealants; Momentive Performance Materials Inc.
 - b. Master Builders Solutions.
 - c. Pecora Corporation.
 - d. Sika Corporation; Joint Sealants.
 - e. The Dow Chemical Company.

2.3 JOINT-SEALANT BACKING

- A. Sealant Backing Material, General: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Construction Foam Products; a division of Nomaco, Inc.
 - b. Master Builders Solutions.
- B. Cylindrical Sealant Backings: ASTM C1330, Type C (closed-cell material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.4 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested

- and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
 - a. Concrete.
 - b. Masonry.
 3. Remove laitance and form-release agents from concrete.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 1. Do not leave gaps between ends of sealant backings.
 2. Do not stretch, twist, puncture, or tear sealant backings.
 3. Remove absorbent sealant backings that have become wet before sealant application, and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 1. Place sealants so they directly contact and fully wet joint substrates.

2. Completely fill recesses in each joint configuration.
 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
1. Remove excess sealant from surfaces adjacent to joints.
 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 3. Provide concave joint profile in accordance with Figure 8A in ASTM C1193 unless otherwise indicated.
 4. Provide flush joint profile in accordance with Figure 8B in ASTM C1193.
- CLEANING
- G. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.4 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out, remove, and repair damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.5 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
1. Joint Locations:
 - a. Construction joints in cast-in-place concrete.
 - b. Joints between plant-precast architectural cast stone units.
 - c. Control and expansion joints in unit masonry.
 - d. Joints between different materials listed above.
 2. Urethane Joint Sealant: Multicomponent, nonsag, Class 25.
 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

END OF SECTION 07 92 00

SECTION 07 62 00 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Low-slope roof sheet metal fabrications.
 - 2. Wall sheet metal fabrications.
 - 3. Miscellaneous sheet metal fabrications.
- B. Related Requirements:
 - 1. Section 04 26 13 "Masonry Veneer" for materials and installation of manufactured sheet metal through-wall flashing and trim integral with masonry.

1.2 COORDINATION

- A. Coordinate sheet metal flashing and trim layout and seams with sizes and locations of penetrations to be flashed, and joints and seams in adjacent materials.
- B. Coordinate sheet metal flashing and trim installation with adjoining roofing and wall materials, joints, and seams to provide leakproof, secure, and noncorrosive installation.

1.3 ACTION SUBMITTALS

- A. Product Data: For each of the following
 - 1. Underlayment materials.
 - 2. Elastomeric sealant.
 - 3. Butyl sealant.
 - 4. Epoxy seam sealer.
- B. Shop Drawings: For sheet metal flashing and trim.
 - 1. Include plans, elevations, sections, and attachment details.
 - 2. Detail fabrication and installation layouts, expansion-joint locations, and keyed details. Distinguish between shop- and field-assembled Work.
 - 3. Include identification of material, thickness, weight, and finish for each item and location in Project.
 - 4. Include details for forming, including profiles, shapes, seams, and dimensions.
 - 5. Include details for joining, supporting, and securing, including layout and spacing of fasteners, cleats, clips, and other attachments. Include pattern of seams.
 - 6. Include details of termination points and assemblies.

7. Include details of expansion joints and expansion-joint covers, including showing direction of expansion and contraction from fixed points.
8. Include details of roof-penetration flashing.
9. Include details of edge conditions, including eaves, ridges, valleys, rakes, crickets, flashings, and counterflashings.
10. Include details of special conditions.
11. Include details of connections to adjoining work.
12. Detail formed flashing and trim at scale of not less than 1-1/2 inches per 12 inches.

- C. Samples for Initial Selection: For each type of sheet metal and accessory indicated with factory-applied finishes.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For fabricator.
- B. Product Certificates: For each type of roof edge flashing that is ANSI/SPRI/FM 4435/ES-1 tested and FM Approvals approved.
- C. Product Test Reports: For each product, for tests performed by a qualified testing agency.
- D. Sample Warranty: For special warranty.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For sheet metal flashing and trim, and its accessories, to include in maintenance manuals.
- B. Special warranty.

1.6 QUALITY ASSURANCE

- A. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.
 1. For roof edge flashings that are ANSI/SPRI/FM 4435/ES-1 tested and FM Approvals approved, shop is to be listed as able to fabricate required details as tested and approved.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage.

1. Store sheet metal flashing and trim materials away from uncured concrete and masonry.
 2. Protect stored sheet metal flashing and trim from contact with water.
- B. Protect strippable protective covering on sheet metal flashing and trim from exposure to sunlight and high humidity, except to extent necessary for period of sheet metal flashing and trim installation.

1.8 WARRANTY

- A. Special Warranty on Finishes: Manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.
1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Delta E units when tested in accordance with ASTM D2244.
 - b. Chalking in excess of a No. 8 rating when tested in accordance with ASTM D4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Sheet metal flashing and trim assemblies, including cleats, anchors, and fasteners, are to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim are not to rattle, leak, or loosen, and are to remain watertight.
- B. Sheet Metal Standard for Flashing and Trim: Comply with NRCA's "The NRCA Roofing Manual: Architectural Metal Flashing, Condensation and Air Leakage Control, and Reroofing" and SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.
- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2.2 SHEET METALS

- A. Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.
- B. Aluminum Sheet: ASTM B209, alloy as standard with manufacturer for finish required, with temper as required to suit forming operations and performance required; with smooth, flat surface.
 - 1. Clear Anodic Finish, Coil Coated: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.
 - 2. Exposed Coil-Coated Finish:
 - a. Two-Coat Fluoropolymer: AAMA 2605. Fluoropolymer finish containing not less than 70 percent polyvinylidene fluoride (PVDF) resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 - 3. Color: As selected by Architect from manufacturer's full range.
 - 4. Concealed Finish: Pretreat with manufacturer's standard white or light-colored acrylic or polyester backer finish, consisting of prime coat and wash coat with minimum total dry film thickness of 0.5 mil.
- C. Stainless Steel Sheet: ASTM A240/A240M, Type 304, dead soft, fully annealed; with smooth, flat surface.
 - 1. Finish: ASTM A480/A480M, No. 2D (dull, cold rolled).
 - a. Surface Preparation: Remove tool and die marks and stretch lines, or blend into finish.
- D. Zinc Sheet: Zinc, 99 percent pure, alloyed with 0.08 to 1.00 percent copper, 0.06 to 0.20 percent titanium, and up to 0.015 percent aluminum; with manufacturer's standard factory-applied, flexible, protective back coating.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Artazn LLC.
 - b. Jarden Zinc Products.
 - c. Rheinzink America.
 - d. Umicore Building Products USA, Inc.
 - 2. Source Limitations: Obtain sheet from single source from single manufacturer.
 - 3. Finish: Preweathered gray.

2.3 MISCELLANEOUS MATERIALS

- A. Provide materials and types of fasteners, solder, protective coatings, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and as recommended by manufacturer of primary sheet metal or manufactured item unless otherwise indicated.
- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal or manufactured item.
 - 1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.
 - a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating. Provide metal-backed EPDM or PVC sealing washers under heads of exposed fasteners bearing on weather side of metal.
 - b. Blind Fasteners: High-strength aluminum or stainless steel rivets suitable for metal being fastened.
 - c. Spikes and Ferrules: Same material as gutter; with spike with ferrule matching internal gutter width.
 - 2. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.
 - 3. Fasteners for Stainless Steel Sheet: Series 300 stainless steel.
 - 4. Fasteners for Zinc Sheet: Series 300 stainless steel or hot-dip galvanized steel in accordance with ASTM A153/A153M or ASTM F2329.
- C. Solder:
 - 1. For Stainless Steel: ASTM B32, Grade Sn60, with acid flux of type recommended by stainless steel sheet manufacturer.
- D. Sealant Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch wide and 1/8 inch thick.
- E. Elastomeric Sealant: ASTM C920, elastomeric polyurethane or silicone polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- F. Butyl Sealant: ASTM C1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.
- G. Epoxy Seam Sealer: Two-part, noncorrosive, aluminum seam-cementing compound, recommended by aluminum manufacturer for exterior nonmoving joints, including riveted joints.

2.4 FABRICATION, GENERAL

- A. Custom fabricate sheet metal flashing and trim to comply with details indicated and recommendations in cited sheet metal standard that apply to design, dimensions, geometry, metal thickness, and other characteristics of item required.
 - 1. Fabricate sheet metal flashing and trim in shop to greatest extent possible.
 - 2. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
 - 3. Verify shapes and dimensions of surfaces to be covered and obtain field measurements for accurate fit before shop fabrication.
 - 4. Form sheet metal flashing and trim to fit substrates without excessive oil-canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.
 - 5. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.
- B. Fabrication Tolerances:
 - 1. Fabricate sheet metal flashing and trim that is capable of installation to a tolerance of 1/4 inch in 20 feet on slope and location lines indicated on Drawings and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.
 - 2. Fabricate sheet metal flashing and trim that is capable of installation to tolerances specified.
- C. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.
 - 1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with butyl sealant concealed within joints.
 - 2. Use lapped expansion joints only where indicated on Drawings.
- D. Sealant Joints: Where movable, nonexpansion-type joints are required, form metal in accordance with cited sheet metal standard to provide for proper installation of elastomeric sealant.
- E. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.
- F. Fabricate cleats and attachment devices of sizes as recommended by cited sheet metal standard and by FM Global Property Loss Prevention Data Sheet 1-49 for application, but not less than thickness of metal being secured.
- G. Seams:
 - 1. Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form seams, and solder.

2. Fabricate nonmoving seams with flat-lock seams. Form seams and seal with elastomeric sealant unless otherwise recommended by sealant manufacturer for intended use. Rivet joints where necessary for strength.
3. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints where necessary for strength.

H. Do not use graphite pencils to mark metal surfaces.

2.5 WALL SHEET METAL FABRICATIONS

- A. Through-Wall Flashing: Fabricate continuous flashings in minimum 96-inch-long, but not exceeding 12-foot-long, sections, under copings, and at shelf angles. Fabricate discontinuous lintel, sill, and similar flashings to extend 6 inches beyond each side of wall openings; and form with 2-inch-high, end dams. Fabricate from the following materials:
1. Stainless Steel: 0.0156 inch thick.
 2. Zinc: 0.032 inch thick.

2.6 MISCELLANEOUS SHEET METAL FABRICATIONS

- A. Equipment Support Flashing: Fabricate from the following materials:
1. Stainless Steel: 0.0188 inch thick.
- B. Overhead-Piping Safety Pans: Fabricate from the following materials:
1. Stainless Steel: 0.0250 inch thick.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with installer present, for compliance with requirements for installation tolerances, substrate, and other conditions affecting performance of the Work.
1. Verify compliance with requirements for installation tolerances of substrates.
 2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
 3. Verify that air- or water-resistant barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF UNDERLAYMENT

- A. Felt Underlayment: Install felt underlayment, wrinkle free, using adhesive to minimize use of mechanical fasteners under sheet metal flashing and trim.
 - 1. Install in shingle fashion to shed water.
 - 2. Lap joints not less than 2 inches.
- B. Synthetic Underlayment: Install synthetic underlayment, wrinkle free, in accordance with manufacturers' written instructions, and using adhesive where possible to minimize use of mechanical fasteners under sheet metal.
 - 1. Lap horizontal joints not less than 4 inches.
 - 2. Lap end joints not less than 12 inches.

3.3 INSTALLATION, GENERAL

- A. Install sheet metal flashing and trim to comply with details indicated and recommendations of cited sheet metal standard that apply to installation characteristics required unless otherwise indicated on Drawings.
 - 1. Install fasteners, solder, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
 - 2. Install sheet metal flashing and trim true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of solder.
 - 3. Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement.
 - 4. Install sheet metal flashing and trim to fit substrates and to result in watertight performance.
 - 5. Install continuous cleats with fasteners spaced not more than 12 inches o.c.
 - 6. Space individual cleats not more than 12 inches apart. Attach each cleat with at least two fasteners. Bend tabs over fasteners.
 - 7. Install exposed sheet metal flashing and trim with limited oil-canning, and free of buckling and tool marks.
 - 8. Do not field cut sheet metal flashing and trim by torch.
 - 9. Do not use graphite pencils to mark metal surfaces.
- B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.
 - 1. Coat concealed side of uncoated-aluminum and stainless steel sheet metal flashing and trim with bituminous coating where flashing and trim contact wood, ferrous metal, or cementitious construction.
 - 2. Underlayment: Where installing sheet metal flashing and trim directly on cementitious or wood substrates, install underlayment and cover with slip sheet.

- C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim.
 - 1. Space movement joints at maximum of 10 feet with no joints within 24 inches of corner or intersection.
 - 2. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with sealant concealed within joints.
 - 3. Use lapped expansion joints only where indicated on Drawings.
- D. Fasteners: Use fastener sizes that penetrate substrate not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.
- E. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.
- F. Seal joints as required for watertight construction.
 - 1. Use sealant-filled joints unless otherwise indicated.
 - a. Embed hooked flanges of joint members not less than 1 inch into sealant.
 - b. Form joints to completely conceal sealant.
 - c. When ambient temperature at time of installation is between 40 and 70 deg F, set joint members for 50 percent movement each way.
 - d. Adjust setting proportionately for installation at higher ambient temperatures.
 - 1) Do not install sealant-type joints at temperatures below 40 deg F.
 - 2. Prepare joints and apply sealants to comply with requirements in Section 07 92 00 "Joint Sealants."
- G. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter.
 - 1. Pre-tin edges of sheets with solder to width of 1-1/2 inches; however, reduce pre-tinning where pre-tinned surface would show in completed Work.
 - 2. Do not solder aluminum sheet.
 - 3. Do not use torches for soldering.
 - 4. Heat surfaces to receive solder, and flow solder into joint.
 - a. Fill joint completely.
 - b. Completely remove flux and spatter from exposed surfaces.
 - 5. Stainless Steel Soldering:
 - a. Tin edges of uncoated sheets, using solder for stainless steel and acid flux.
 - b. Promptly remove acid-flux residue from metal after tinning and soldering.
 - c. Comply with solder manufacturer's recommended methods for cleaning and neutralization.

- H. Rivets: Rivet joints in uncoated aluminum or zinc where necessary for strength.

3.4 INSTALLATION OF WALL FLASHINGS

- A. Install sheet metal wall flashing to intercept and exclude penetrating moisture in accordance with cited sheet metal standard unless otherwise indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.
- B. Opening Flashings in Frame Construction: Install continuous head, sill, jamb, and similar flashings to extend 4 inches beyond wall openings.
- C. Reglets: Installation of reglets is specified in Section 04 22 00 "Concrete Unit Masonry."

3.5 INSTALLATION OF MISCELLANEOUS FLASHING

- A. Equipment Support Flashing:
 - 1. Coordinate installation of equipment support flashing with installation of roofing and equipment.
 - 2. Weld or seal flashing with elastomeric sealant to equipment support member.
- B. Overhead-Piping Safety Pans:
 - 1. Suspend pans from structure above, independent of other overhead items such as equipment, piping, and conduit, unless otherwise indicated on Drawings.
 - 2. Pipe and install drain line to plumbing waste or drainage system.

3.6 INSTALLATION TOLERANCES

- A. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerance of 1/4 inch in 20 feet on slope and location lines indicated on Drawings and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

3.7 CLEANING

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean and neutralize flux materials. Clean off excess solder.
- C. Clean off excess sealants.

3.8 PROTECTION

- A. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions.
- B. On completion of sheet metal flashing and trim installation, remove unused materials and clean finished surfaces as recommended in writing by sheet metal flashing and trim manufacturer.
- C. Maintain sheet metal flashing and trim in clean condition during construction.
- D. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures, as determined by Architect.

END OF SECTION 07 62 00

SECTION 260010 - SUPPLEMENTAL REQUIREMENTS FOR ELECTRICAL

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section specifies supplemental requirements generally applicable to the Work specified in Division 26. This Section is also referenced by related Work specified in other Divisions.
- B. Related Requirements:
 - 1. Section 260011 "Facility Performance Requirements for Electrical" specifies seismic-load, wind-load, acoustical, and other field conditions applicable to Work specified in this Section.

1.2 REFERENCES

- A. Abbreviations and Acronyms for Electrical Terms and Units of Measure:
 - 1. 8P8C: An 8-position 8-contact modular jack.
 - 2. A: Ampere, unit of electrical current.
 - 3. AC or ac: Alternating current.
 - 4. AFCI: Arc-fault circuit interrupter.
 - 5. AIC: Ampere interrupting capacity.
 - 6. AL, Al, or ALUM: Aluminum.
 - 7. ASD: Adjustable-speed drive; also called "variable-frequency drive" (VFD).
 - 8. ATS: Automatic transfer switch.
 - 9. AWG: American wire gauge; see ASTM B258.
 - 10. BAS: Building automation system.
 - 11. BIL: Basic impulse insulation level.
 - 12. BIM: Building information modeling.
 - 13. CAD: Computer-aided design or drafting.
 - 14. CATV: Community antenna television.
 - 15. CB: Circuit breaker.
 - 16. cd: Candela, the SI fundamental unit of luminous intensity.
 - 17. CO/ALR: Copper-aluminum, revised.
 - 18. COPS: Critical operations power system.
 - 19. CU or Cu: Copper.
 - 20. CU-AL or AL-CU: Copper-aluminum.
 - 21. dB: Decibel, a unitless logarithmic ratio of two electrical, acoustical, or optical power values.
 - 22. dB(A-weighted) or dB(A): Decibel acoustical sound pressure level with A-weighting applied in accordance with IEC 61672-1.

- 23. dB(adjusted) or dBa: Decibel weighted absolute noise power with respect to 3.16 pW (minus 85 dBm).
- 24. dBm: Decibel absolute power with respect to 1 mW.
- 25. DC or dc: Direct current.
- 26. DCOA: Designated critical operations area.
- 27. DDC: Direct digital control (HVAC).
- 28. EGC: Equipment grounding conductor.
- 29. ELV: Extra-low voltage.
- 30. EMF: Electromotive force.
- 31. EMI: Electromagnetic interference.
- 32. EPM: Electrical preventive maintenance.
- 33. EPS: Emergency power supply.
- 34. EPSS: Emergency power supply system.
- 35. ESS: Energy storage system.
- 36. EV: Electric vehicle.
- 37. EVPE: Electric vehicle power export equipment.
- 38. EVSE: Electric vehicle supply equipment.
- 39. fc: Footcandle, an internationally recognized unit of illuminance equal to one lumen per square foot or 10.76 lx. The simplified conversion 1 fc = 10 lx in the Specifications is common practice and considered adequate precision for building construction activities. When there are conflicts, lux is the primary unit; footcandle is specified for convenience.
- 40. FLC: Full-load current.
- 41. ft: Foot.
- 42. ft-cd: Foot-candle, the antiquated U.S. Standard unit of illuminance, equal to one international candle measured at a distance of one foot, that was superseded in 1948 by the unit "footcandle" after the SI unit candela (cd) replaced the international candle; see "fc,"
- 43. GEC: Grounding electrode conductor.
- 44. GFCI: Ground-fault circuit interrupter.
- 45. GFPE: Ground-fault protection of equipment.
- 46. GND: Ground.
- 47. HACR: Heating, air conditioning, and refrigeration.
- 48. HDPE: High-density polyethylene.
- 49. HID: High-intensity discharge.
- 50. HP or hp: Horsepower.
- 51. HVAC: Heating, ventilating, and air conditioning.
- 52. Hz: Hertz.
- 53. IBT: Intersystem bonding termination.
- 54. inch: Inch. To avoid confusion, the abbreviation "in." is not used.
- 55. IP: Ingress protection rating (enclosures); Internet protocol (communications).
- 56. IR: Infrared.
- 57. IS: Intrinsically safe.
- 58. IT&R: Inspecting, testing, and repair.
- 59. ITE: Information technology equipment.
- 60. kAIC: Kiloampere interrupting capacity.
- 61. kcmil or MCM: One thousand circular mils.

- 62. kV: Kilovolt.
- 63. kVA: Kilovolt-ampere.
- 64. kVA_r or kVAR: Kilovolt-ampere reactive.
- 65. kW: Kilowatt.
- 66. kWh: Kilowatt-hour.
- 67. LAN: Local area network.
- 68. lb: Pound (weight).
- 69. lbf: Pound (force).
- 70. LCD: Liquid-crystal display.
- 71. LCDI: Leakage-current detector-interrupter.
- 72. LED: Light-emitting diode.
- 73. Li-ion: Lithium-ion.
- 74. lm: Lumen, the SI derived unit of luminous flux.
- 75. LNG: Liquefied natural gas.
- 76. LP-Gas: Liquefied petroleum gas.
- 77. LRC: Locked-rotor current.
- 78. LV: Low voltage.
- 79. lx: Lux, the SI derived unit of illuminance equal to one lumen per square meter.
- 80. m: Meter.
- 81. MCC: Motor-control center.
- 82. MDC: Modular data center.
- 83. MG set: Motor-generator set.
- 84. MIDI: Musical instrument digital interface.
- 85. MLO: Main lugs only.
- 86. MV: Medium voltage.
- 87. MVA: Megavolt-ampere.
- 88. mW: Milliwatt.
- 89. MW: Megawatt.
- 90. MWh: Megawatt-hour.
- 91. NC: Normally closed.
- 92. Ni-Cd: Nickel-cadmium.
- 93. Ni-MH: Nickel-metal hydride.
- 94. NIU: Network interface unit.
- 95. NO: Normally open.
- 96. NPT: National (American) standard pipetaper.
- 97. OCPD: Overcurrent protective device.
- 98. ONT: Optical network terminal.
- 99. PC: Personal computer.
- 100. PCS: Power conversion system.
- 101. PCU: Power-conditioning unit.
- 102. PF or pf: Power factor.
- 103. PHEV: Plug-in hybrid electric vehicle.
- 104. PLC: Programmable logic controller.
- 105. PLFA: Power-limited fire alarm.
- 106. PoE: Power over Ethernet.
- 107. PV: Photovoltaic.

108. PVC: Polyvinyl chloride.
109. pW: Picowatt.
110. RFI: (electrical) Radio-frequency interference; (contract) Request for interpretation.
111. RMS or rms: Root-mean-square.
112. RPM or rpm: Revolutions per minute.
113. SCADA: Supervisory control and data acquisition.
114. SCR: Silicon-controlled rectifier.
115. SPD: Surge protective device.
116. sq.: Square.
117. SWD: Switching duty.
118. TCP/IP: Transmission control protocol/Internet protocol.
119. TEFC: Totally enclosed fan-cooled.
120. TR: Tamper resistant.
121. TVSS: Transient voltage surge suppressor.
122. UL: (standards) Underwriters Laboratories, Inc.; (product categories) UL, LLC.
123. UL CCN: UL Category Control Number.
124. UPS: Uninterruptible power supply.
125. USB: Universal serial bus.
126. UV: Ultraviolet.
127. V: Volt, unit of electromotive force.
128. V(ac): Volt, alternating current.
129. V(dc): Volt, direct current.
130. VA: Volt-ampere, unit of complex electrical power.
131. VAR: Volt-ampere reactive, unit of reactive electrical power.
132. VFC: Variable-frequency controller.
133. VOM: Volt-ohm-multimeter.
134. VPN: Virtual private network.
135. VRLA: Valve regulated lead acid; also called "sealed lead acid (SLA)" or "valve regulated sealed lead acid."
136. W: Watt, unit of real electrical power.
137. Wh: Watt-hour, unit of electrical energy usage.
138. WPT: Wireless power transfer.
139. WPTE: Wireless power transfer equipment.
140. WR: Weather resistant.

B. Abbreviations and Acronyms for Electrical Raceway Types:

1. CR: Communications raceway.
2. CR-GP: General-purpose communications raceway.
3. CR-P: Plenum communications raceway.
4. CR-R: Riser communications raceway.
5. EMT: Electrical metallic tubing.
6. EMT-A: Aluminum electrical metallic tubing.
7. EMT-S: Steel electrical metallic tubing.
8. EMT-SS: Stainless steel electrical metallic tubing.
9. ENT: Electrical nonmetallic tubing.
10. EPEC: Electrical HDPE underground conduit (thin wall).

11. EPEC-A: Type A electrical HDPE underground conduit.
12. EPEC-B: Type B electrical HDPE underground conduit.
13. ERM C: Electrical rigid metal conduit.
14. ERM C-A: Aluminum electrical rigid metal conduit.
15. ERM C-S: Steel electrical rigid metal conduit.
16. ERM C-S-G: Galvanized-steel electrical rigid metal conduit.
17. ERM C-S-PVC: PVC-coated-steel electrical rigid metal conduit.
18. ERM C-SS: Stainless steel electrical rigid metal conduit.
19. FMC: Flexible metal conduit.
20. FMC-A: Aluminum flexible metal conduit.
21. FMC-S: Steel flexible metal conduit.
22. FMT: Steel flexible metallic tubing.
23. FNMC: Flexible nonmetallic conduit. See "LFNC."
24. HDPE: HDPE underground conduit (thick wall).
25. HDPE-40: Schedule 40 HDPE underground conduit.
26. HDPE-80: Schedule 80 HDPE underground conduit.
27. IMC: Steel electrical intermediate metal conduit.
28. LFMC: Liquidtight flexible metal conduit.
29. LFMC-A: Aluminum liquidtight flexible metal conduit.
30. LFMC-S: Steel liquidtight flexible metal conduit.
31. LFMC-SS: Stainless steel liquidtight flexible metal conduit.
32. LFNC: Liquidtight flexible nonmetallic conduit.
33. LFNC-A: Layered (Type A) liquidtight flexible nonmetallic conduit.
34. LFNC-B: Integral (Type B) liquidtight flexible nonmetallic conduit.
35. LFNC-C: Corrugated (Type C) liquidtight flexible nonmetallic conduit.
36. OFR: Optical fiber raceway.
37. OFR-GP: General-purpose optical fiber raceway.
38. OFR-P: Plenum optical fiber raceway.
39. OFR-R: Riser optical fiber raceway.
40. PVC: Rigid PVC conduit.
41. PVC-40: Schedule 40 rigid PVC conduit.
42. PVC-80: Schedule 80 rigid PVC Conduit.
43. PVC-A: Type A rigid PVC concrete-encased conduit.
44. PVC-EB: Type EB rigid PVC concrete-encased underground conduit.
45. RGS: See ERM C-S-G.
46. RMC: See ERM C.
47. RTRC: Reinforced thermosetting resin conduit.
48. RTRC-AG: Low-halogen, aboveground reinforced thermosetting resin conduit.
49. RTRC-AG-HW: Heavy wall, low-halogen, aboveground reinforced thermosetting resin conduit.
50. RTRC-AG-SW: Standard wall, low-halogen, aboveground reinforced thermosetting resin conduit.
51. RTRC-AG-XW: Extra heavy wall, low-halogen, aboveground reinforced thermosetting resin conduit.
52. RTRC-BG: Low-halogen, belowground reinforced thermosetting resin conduit.

C. Abbreviations and Acronyms for Electrical Single-Conductor and Multiple-Conductor Cable Types:

1. AC: Armored cable.
2. CATV: Coaxial general-purpose cable.
3. CATVP: Coaxial plenum cable.
4. CATVR: Coaxial riser cable.
5. CI: Circuit integrity cable.
6. CL2: Class 2 cable.
7. CL2P: Class 2 plenum cable.
8. CL2R: Class 2 riser cable.
9. CL2X: Class 2 cable, limited use.
10. CL3: Class 3 cable.
11. CL3P: Class 3 plenum cable.
12. CL3R: Class 3 riser cable.
13. CL3X: Class 3 cable, limited use.
14. CM: Communications general-purpose cable.
15. CMG: Communications general-purpose cable.
16. CMP: Communications plenum cable.
17. CMR: Communications riser cable.
18. CMUC: Under-carpet communications wire and cable.
19. CMX: Communications cable, limited use.
20. DG: Distributed generation cable.
21. FC: Flat cable.
22. FCC: Flat conductor cable.
23. FPL: Power-limited fire-alarm cable.
24. FPLP: Power-limited fire-alarm plenum cable.
25. FPLR: Power-limited fire-alarm riser cable.
26. IGS: Integrated gas spacer cable.
27. ITC: Instrumentation tray cable.
28. ITC-ER: Instrumentation tray cable, exposed run.
29. MC: Metal-clad cable.
30. MC-HL: Metal-clad cable, hazardous location.
31. MI: Mineral-insulated, metal-sheathed cable.
32. MTW: (machine tool wiring) Moisture-, heat-, and oil-resistant thermoplastic cable.
33. MV: Medium-voltage cable.
34. NM: Nonmetallic sheathed cable.
35. NMC: Nonmetallic sheathed cable with corrosion-resistant nonmetallic jacket.
36. NMS: Nonmetallic sheathed cable with signaling, data, and communications conductors, plus power or control conductors.
37. NPLF: Non-power-limited fire-alarm circuit cable.
38. NPLFP: Non-power-limited fire-alarm circuit cable for environmental air spaces.
39. NPLFR: Non-power-limited fire-alarm circuit riser cable.
40. NUCC: Nonmetallic underground conduit with conductors.
41. OFC: Conductive optical fiber general-purpose cable.
42. OFCG: Conductive optical fiber general-purpose cable.
43. OFCP: Conductive optical fiber plenum cable.

44. OFCR: Conductive optical fiber riser cable.
45. OFN: Nonconductive optical fiber general-purpose cable.
46. OFNG: Nonconductive optical fiber general-purpose cable.
47. OFNP: Nonconductive optical fiber plenum cable.
48. OFNR: Nonconductive optical fiber riser cable.
49. P: Marine shipboard cable.
50. PLTC: Power-limited tray cable.
51. PLTC-ER: Power-limited tray cable, exposed run.
52. PV: Photovoltaic cable.
53. RHH: (high heat) Thermoset rubber, heat-resistant cable.
54. RHW: Thermoset rubber, moisture-resistant cable.
55. SA: Silicone rubber cable.
56. SE: Service-entrance cable.
57. SER: Service-entrance cable, round.
58. SEU: Service-entrance cable, flat.
59. SIS: Thermoset cable for switchboard and switchgear wiring.
60. TBS: Thermoplastic cable with outer braid.
61. TC: Tray cable.
62. TC-ER: Tray cable, exposed run.
63. TC-ER-HL: Tray cable, exposed run, hazardous location.
64. THW: Thermoplastic, heat- and moisture-resistant cable.
65. THHN: Thermoplastic, heat-resistant cable with nylon jacket outer sheath.
66. THHW: Thermoplastic, heat- and moisture-resistant cable.
67. THWN: Thermoplastic, moisture- and heat-resistant cable with nylon jacket outer sheath.
68. TW: Thermoplastic, moisture-resistant cable.
69. UF: Underground feeder and branch-circuit cable.
70. USE: Underground service-entrance cable.
71. XHH: Cross-linked polyethylene, heat-resistant cable.
72. XHHW: Cross-linked polyethylene, heat- and moisture-resistant cable.

D. Abbreviations and Acronyms for Electrical Flexible Cord Types:

1. SEO: 600 V extra-hard-usage, hard-service cord with thermoplastic elastomer insulation and oil-resistant thermoplastic elastomer outer covering for damp locations.
2. SEOW: 600 V extra-hard-usage, hard-service cord with thermoplastic elastomer insulation and oil-resistant thermoplastic elastomer outer covering for damp or wet locations.
3. SEOO: 600 V extra-hard-usage, hard-service cord with oil-resistant thermoplastic elastomer insulation and oil-resistant thermoplastic elastomer outer covering for damp locations.
4. SEOWW: 600V extra-hard-usage, hard-service cord with oil-resistant thermoplastic elastomer insulation and oil-resistant thermoplastic elastomer outer covering for damp or wet locations.
5. SJEO: 300 V hard-usage, junior hard-service cord with thermoplastic elastomer insulation and oil-resistant thermoplastic elastomer outer cover for damp locations.

6. SJEOW: 300 V hard-usage, junior hard-service cord with thermoplastic elastomer insulation and oil-resistant thermoplastic elastomer outer cover for damp or wet locations.
7. SJEOO: 300 V hard-usage, junior hard-service cord with oil-resistant thermoplastic elastomer insulation and oil-resistant thermoplastic elastomer outer cover for damp locations.
8. SJEOOW: 300 V hard-usage, junior hard-service cord with oil-resistant thermoplastic elastomer insulation and oil-resistant thermoplastic elastomer outer cover for damp or wet locations.
9. SJO: 300 V hard-usage, junior hard-service cord with thermoset insulation and oil-resistant thermoset outer cover for damp locations.
10. SJOW: 300 V hard-usage, junior hard-service cord with thermoset insulation and oil-resistant thermoset outer cover for damp or wet locations.
11. SJOO: 300 V hard-usage, junior hard-service cord with oil-resistant thermoset insulation and oil-resistant thermoset outer cover for damp locations.
12. SJOOOW: 300 V hard-usage, junior hard-service cord with oil-resistant thermoset insulation and oil-resistant thermoset outer cover for damp or wet locations.
13. SJTO: 300 V hard-usage, junior hard-service cord with thermoplastic insulation and oil-resistant thermoplastic outer cover for damp locations.
14. SJTOW: 300 V hard-usage, junior hard-service cord with thermoplastic insulation and oil-resistant thermoplastic outer cover for damp or wet locations.
15. SJTOO: 300 V hard-usage, junior hard-service cord with oil-resistant thermoplastic insulation and oil-resistant thermoplastic outer cover for damp locations.
16. SJTOOW: 300 V hard-usage, junior hard-service cord with oil-resistant thermoplastic insulation and oil-resistant thermoplastic outer cover for damp or wet locations.
17. SO: 600 V extra-hard-usage, hard-service cord with thermoset insulation and oil-resistant thermoset outer covering for damp locations.
18. SOW: 600 V extra-hard-usage, hard-service cord with thermoset insulation and oil-resistant thermoset outer covering for damp or wet locations.
19. SOO: 600 V extra-hard-usage, hard-service cord with oil-resistant thermoset insulation and oil-resistant thermoset outer covering for damp locations.
20. SOOW: 600 V extra-hard-usage, hard-service cord with oil-resistant thermoset insulation and oil-resistant thermoset outer covering for damp or wet locations.
21. STO: 600 V extra-hard-usage, hard-service cord with thermoplastic insulation and oil-resistant thermoplastic outer covering for damp locations.
22. STOW: 600 V extra-hard-usage, hard-service cord with thermoplastic insulation and oil-resistant thermoplastic outer covering for damp or wet locations.
23. STOO: 600 V extra-hard-usage, hard-service cord with oil-resistant thermoplastic insulation and oil-resistant thermoplastic outer covering for damp locations.
24. STOOOW: 600 V extra-hard-usage, hard-service cord with oil-resistant thermoplastic insulation and oil-resistant thermoplastic outer covering for damp or wet locations.

E. Definitions:

1. 8-Position 8-Contact (8P8C) Modular Jack: An unkeyed jack with up to eight contacts commonly used to terminate twisted-pair and multiconductor Ethernet cable. Also called a "TIA-1096 miniature 8-position series jack" (8PSJ), or an "IEC 8877 8-pole jack."

- a. Be careful when suppliers use "RJ45" generically. Obsolete RJ45 jacks used for analog telephone cables have rejection keys. 8P8C jacks used for digital telephone cables and Ethernet cables do not have rejection keys.
2. Basic Impulse Insulation Level (BIL): Reference insulation level expressed in impulse crest voltage with a standard wave not longer than 1.5 times 50 microseconds and 1.5 times 40 microseconds.
3. Cable: In accordance with NIST NBS Circular 37 and IEEE standards, in the United States for the purpose of interstate commerce, the definition of "cable" is (1) a conductor with insulation, or a stranded conductor with or without insulation (single-conductor cable); or (2) a combination of conductors insulated from one another (multiple-conductor cable).
4. Communications Jack: A fixed connecting device designed for insertion of a communications cable plug.
5. Communications Outlet: One or more communications jacks, or cables and plugs, mounted in a box or ring, with a suitable protective cover.
6. Conductor: In accordance with NIST NBS Circular 37 and IEEE standards, in the United States for the purpose of interstate commerce, the definition of "conductor" is (1) a wire or combination of wires not insulated from one another, suitable for carrying an electric current; (2) (National Electrical Safety Code) a material, usually in the form of wire, cable, or bar, suitable for carrying an electric current; or (3) (general) a substance or body that allows a current of electricity to pass continuously along it.
7. Designated Seismic System: A system component that requires design in accordance with Ch. 13 of ASCE/SEI 7 and for which the Component Importance Factor is greater than 1.0.
8. Direct Buried: Installed underground without encasement in concrete or other protective material.
9. Enclosure: The case or housing of an apparatus, or the fence or wall(s) surrounding an installation, to prevent personnel from accidentally contacting energized parts or to protect the equipment from physical damage. Types of enclosures and enclosure covers include the following:
 - a. Cabinet: An enclosure that is designed for either surface mounting or flush mounting and is provided with a frame, mat, or trim in which a swinging door or doors are or can be hung.
 - b. Concrete Box: A box intended for use in poured concrete.
 - c. Conduit Body: A means for providing access to the interior of a conduit or tubing system through one or more removable covers at a junction or terminal point. In the United States, conduit bodies are listed in accordance with outlet box requirements.
 - d. Conduit Box: A box having threaded openings or knockouts for conduit, EMT, or fittings.
 - e. Cutout Box: An enclosure designed for surface mounting that has swinging doors or covers secured directly to and telescoping with the walls of the enclosure.
 - f. Device Box: A box with provisions for mounting a wiring device directly to the box.

- g. Extension Ring: A ring intended to extend the sides of an outlet box or device box to increase the box depth, volume, or both.
 - h. Floor Box: A box mounted in the floor intended for use with a floor box cover and other components to complete the floor box enclosure.
 - i. Floor-Mounted Enclosure: A floor box and floor box cover assembly with means to mount in the floor that is sealed against the entrance of scrub water at the floor level.
 - j. Floor Nozzle: An enclosure used on a wiring system, intended primarily as a housing for a receptacle, provided with a means, such as a collar, for surface-mounting on a floor, which may or may not include a stem to support it above the floor level, and is sealed against the entrance of scrub water at the floor level.
 - k. Junction Box: A box with a blank cover that joins different runs of raceway or cable and provides space for connection and branching of the enclosed conductors.
 - l. Outlet Box: A box that provides access to a wiring system having pryout openings, knockouts, threaded entries, or hubs in either the sides or the back, or both, for the entrance of conduit, conduit or cable fittings, or cables, with provisions for mounting an outlet box cover, but without provisions for mounting a wiring device directly to the box.
 - m. Pedestal Floor Box Cover: A floor box cover that, when installed as intended, provides a means for typically vertical or near-vertical mounting of receptacle outlets above the floor's finished surface.
 - n. Pull Box: A box with a blank cover that joins different runs of raceway and provides access for pulling or replacing the enclosed cables or conductors.
 - o. Raised-Floor Box: A floor box intended for use in raised floors.
 - p. Recessed Access Floor Box: A floor box with provisions for mounting wiring devices below the floor surface.
 - q. Recessed Access Floor Box Cover: A floor box cover with provisions for passage of cords to recessed wiring devices mounted within a recessed floor box.
 - r. Ring: A sleeve, which is not necessarily round, used for positioning a recessed wiring device flush with the plaster, concrete, drywall, or other wall surface.
 - s. Ring Cover: A box cover, with raised center portion to accommodate a specific wall or ceiling thickness, for mounting wiring devices or luminaires flush with the surface.
 - t. Termination Box: An enclosure designed for installation of termination base assemblies consisting of bus bars, terminal strips, or terminal blocks with provision for wire connectors to accommodate incoming or outgoing conductors, or both.
10. Emergency Systems: Those systems legally required and classed as emergency by municipal, state, federal, or other codes, or by any governmental agency having jurisdiction that are designed to ensure continuity of lighting, electrical power, or both, to designated areas and equipment in the event of failure of the normal supply for safety to human life.
11. Essential Electrical Systems: (healthcare facilities) Those systems designed to ensure continuity of electrical power to designated areas and functions of a healthcare facility

during disruption of normal power sources, and also to minimize disruption within the internal wiring system.

12. Fault Limited: Providing or being served by a source of electrical power that is limited to not more than 100 W when tested in accordance with UL 62368-1.
 - a. The term "fault limited" is intended to encompass most Class 1, 2, and 3 power-limited sources complying with Article 725 of NFPA 70; Class ES1 and ES2 electrical energy sources that are Class PS1 electrical power sources (e.g., USB); and Class ES3 electrical energy sources that are Class PS1 and PS2 electrical power sources (e.g., PoE). See UL 62368-1 for discussion of classes of electrical energy sources and classes of electrical power sources.
13. High-Performance Building: A building that integrates and optimizes on a life-cycle basis all major high-performance attributes, including energy conservation, environment, safety, security, durability, accessibility, cost-benefit, productivity, sustainability, functionality, and operational considerations.
14. Jacket: A continuous nonmetallic outer covering for conductors or cables.
15. Luminaire: A complete lighting unit consisting of a light source such as a lamp, together with the parts designed to position the light source and connect it to the power supply. It may also include parts to protect the light source or the ballast or to distribute the light.
16. Mode: The terms "Active Mode," "Off Mode," and "Standby Mode" are used as defined in the Energy Independence and Security Act (EISA) of 2007.
17. Multi-Outlet Assembly: A type of surface, flush, or freestanding raceway designed to hold conductors, receptacles, and switches, assembled in the field or at the factory.
18. Plenum: A compartment or chamber to which one or more air ducts are connected and that forms part of the air distribution system.
19. Receptacle: A fixed connecting device arranged for insertion of a power cord plug. Also called a power jack.
20. Receptacle Outlet: One or more receptacles mounted in a box with a suitable protective cover.
21. Sheath: A continuous metallic covering for conductors or cables.
22. UL Category Control Number (CCN): An alphabetic or alphanumeric code used to identify product categories covered by UL's Listing, Classification, and Recognition Services.
23. Voltage Class: For specified circuits and equipment, voltage classes are defined as follows:
 - a. Control Voltage: Having electromotive force between any two conductors, or between a single conductor and ground, that is supplied from a battery or other Class 2 or Class 3 power-limited source.
 - b. Line Voltage: (1) (controls) Designed to operate using the supplied low-voltage power without transformation. (2) (transmission lines, transformers, SPDs) The line-to-line voltage of the supplying powersystem.
 - c. Extra-Low Voltage (ELV): Not having electromotive force between any two conductors, or between a single conductor and ground, exceeding 30 V(ac rms), 42 V(ac peak), or 60 V(dc).

- d. Low Voltage (LV): Having electromotive force between any two conductors, or between a single conductor and ground, that is rated above 30 V but not exceeding 1000 V.
 - e. Medium Voltage (MV): Having electromotive force between any two conductors, or between a single conductor and ground, that is rated about 1 kV but not exceeding 69 kV.
 - f. High Voltage: (1) (circuits) Having electromotive force between any two conductors, or between a single conductor and ground, that is rated above 69 kV but not exceeding 230 kV. (2) (safety) Having sufficient electromotive force to inflict bodily harm or injury.
24. Wire: In accordance with NIST NBS Circular 37 and IEEE standards, in the United States for the purpose of interstate commerce, the definition of "wire" is a slender rod or filament of drawn metal. A group of small wires used as a single wire is properly called a "stranded wire." A wire or stranded wire covered with insulation is properly called an "insulated wire" or a "single-conductor cable." Nevertheless, when the context indicates that the wire is insulated, the term "wire" will be understood to include the insulation.

1.3 COORDINATION

- A. Interruption of Existing Electrical Service: Do not interrupt electrical service to facilities occupied by Owner or others unless permitted under the following conditions:
 - 1. Notify Owner no fewer than seven days in advance of proposed interruption of electrical service.
 - 2. Do not proceed with interruption of electrical service without Owner's written permission.
 - 3. Coordinate interruption with systems impacted by outage including, but not limited to, the following:
 - a. Exercising generators.
 - b. Emergency lighting.
 - c. Elevators.
 - d. Fire-alarm systems.
- B. Arrange to provide temporary electrical service or power in accordance with requirements specified in Division 01.

1.4 PREINSTALLATION MEETINGS

- A. Electrical Preconstruction Conference: Schedule conference with Architect and Owner, not later than 10 days after notice to proceed. Agenda topics include, but are not limited to, the following:
 - 1. Electrical installation schedule.
 - 2. Status of power system studies.

3. Value analysis proposals and requests for substitution of electrical equipment.
4. Utility work coordination and class of service requests.
5. Commissioning activities.
6. Sustainability activities.

1.5 SEQUENCING

- A. Conduct and submit results of power system studies before submitting Product Data and Shop Drawings for electrical equipment.

1.6 SCHEDULING

- A. Notify owner prior to shutdown
- B. Follow all instructions given by owner.

1.7 ACTION SUBMITTALS

- A. Coordination drawings.

1.8 INFORMATIONAL SUBMITTALS

- A. Electrical installation schedule.
- B. Qualification statements.
- C. Welding certificates.
- D. Seismic-load performance certificates.
- E. Delegated design drawings for structural masonry wall penetrations.

1.9 CLOSEOUT SUBMITTALS

- A. Facility EPM program binders.
- B. Operation and maintenance data.
- C. Software and firmware operational documentation.
- D. Software.

1.10 QUALITY ASSURANCE

- A. Qualifications: Prepare and submit qualification statements for the following entities performing Work on Project:
1. Qualified Regional Manufacturer: Manufacturer, possessing qualifications specified in Section 014000 "Quality Requirements," that maintains a service center capable of providing training, parts, and emergency on-site repairs to Project site with response time less than eight hours.
 2. Structural Professional Engineer: Professional engineer possessing active qualifications specified in Section 014000 "Quality Requirements," with expertise in structural engineering.
 3. Electrical Professional Engineer: Professional engineer possessing active qualifications specified in Section 014000 "Quality Requirements," with expertise in electrical engineering, including electrical power system modeling and analysis of electrical safety in accordance with NFPA 70E.
 4. Lighting Professional Engineer: Professional engineer possessing active qualifications in accordance with Section 014000 "Quality Requirements" and the following:
 - a. Expertise in electrical engineering, lighting design, and structural requirements for exterior poles and standards.
 - b. Lighting Certified (LC) Professional by the National Council on Qualifications for the Lighting Professions (NCQLP).
 5. EPM Specialist: Recognized experts possessing the following qualifications in accordance with Section 014000 "Quality Requirements" and NFPA 70B:
 - a. Technical Competence: Person should, by education, training, and experience, be well-rounded in all aspects of electrical maintenance.
 - b. Administrative and Supervisory Skills: Person should be skilled in planning and development of long-range objectives to achieve specific results and should be able to command respect and solicit cooperation of persons involved in EPM Program development.
 6. Welder: Installer possessing active qualifications specified in Section 014000 "Quality Requirements," with training and certification in accordance with AWS D1.1/D1.1M.
 7. ERMCS-PVC Installers: Installer possessing active qualifications specified in Section 014000 "Quality Requirements," and able to present unexpired certified Installer credentials issued by ERMCS-PVC manufacturer prior to starting installation.
 8. Electrical Power Monitoring Installers: Installer possessing active qualifications specified in Section 014000 "Quality Requirements," and able to present unexpired certified Installer credentials issued by manufacturer prior to starting installation.
 9. EVSE Installers: Installer possessing active qualifications specified in Section 014000 "Quality Requirements," and able to present unexpired certified Installer credentials issued by EVSE manufacturer prior to starting installation.

10. Generator Set Installers: Installer possessing active qualifications specified in Section 014000 "Quality Requirements," and able to present unexpired certified Installer credentials issued by generator set manufacturer prior to starting installation.
11. Lightning Protection System Installers: Installer possessing active qualifications specified in Section 014000 "Quality Requirements," and able to present unexpired UL-Listed Installer, UL Category Control Number OWAY, credentials or unexpired LPI Master Installer credentials prior to starting installation.
12. Theatrical Lighting Installers: Installer possessing active qualifications specified in Section 014000 "Quality Requirements," and able to present unexpired certified Installer credentials issued by theatrical lighting manufacturers prior to starting installation.
13. Exterior Athletic Lighting Installers: Installer possessing active qualifications specified in Section 014000 "Quality Requirements," and able to present unexpired certified Installer credentials issued by exterior athletic lighting manufacturer prior to starting installation.
14. Power Quality Specialist: Recognized experts possessing active credentials from a qualified electrical testing laboratory recognized by authorities having jurisdiction, and able to present unexpired NICET Level 4 credentials with documented experience in power quality testing for installations similar in complexity to this Project.
15. Low-Voltage Electrical Testing and Inspecting Agency: Entities possessing active credentials from a qualified electrical testing laboratory recognized by authorities having jurisdiction.
 - a. On-site electrical testing supervisors must have documented certification and experience with testing electrical equipment in accordance with NETA testing standards.
16. Medium-Voltage Electrical Testing and Inspecting Agency: Entities possessing active credentials from a qualified electrical testing laboratory recognized by authorities having jurisdiction.
 - a. On-site electrical testing supervisors must have documented certification and experience with testing electrical equipment in accordance with NETA testing standards.
17. Structural Testing and Inspecting Agency: Entity possessing active qualifications specified in Section 014000 "Quality Requirements" with documented training and experience with testing structural concrete, seismic controls, and wind-load controls.
18. Outdoor Pole Testing and Inspecting Agency: Entity possessing active qualifications specified in Section 014000 "Quality Requirements" with documented training and experience in accordance with ASTM C1093 for foundation testing and inspections.
19. Luminaire Photometric Testing Laboratory: Entity possessing active qualifications specified in Section 014000 "Quality Requirements" accredited under the NVLAP for Energy Efficient Lighting Products, and complying with applicable IES testing standards.
20. Lighting Testing and Inspecting Agency: Entity possessing active qualifications specified in Section 014000 "Quality Requirements" with documented training and experience with testing and inspecting lighting installations in accordance with IES LM-5.

B. Certifications:

1.11 FIELD CONDITIONS

- A. Modeling, analysis, product selection, installation, and quality control for Work specified in Division 26 must comply with requirements specified in Section 260011 "Facility Performance Requirements for Electrical."
- B. Service Conditions for Electrical Power Equipment: Besides conditions specified in Section 260011 "Facility Performance Requirements for Electrical," specified electrical power equipment must be suitable for operation under service conditions specified as usual service conditions in applicable NEMA PB series, IEEE C37 series, and IEEE C57 series standards, except for the following:

PART 2 - PRODUCTS

2.1 SUBSTITUTION LIMITATIONS FOR ELECTRICAL EQUIPMENT

- A. Substitution requests for electrical equipment will be entertained under the following conditions:
 - 1. Notification of Contractor's intent to request substitutions for convenience must be declared during the Electrical Preconstruction Conference so potential risks to system performance and construction schedule may be identified for Contractor's response in submission of the substitution request. Submission of requests for substitutions for convenience must meet the conditions and deadline specified in Section 012500 "Substitution Procedures" to receive approval.
 - 2. For electrical equipment and systems, substitutions for cause are considered major construction risks. If it is possible that Contractor may need to request substitutions for cause because of equipment unavailability, or inability to meet construction schedule because of lead time, Contractor must declare the possibility during the Electrical Preconstruction Conference to permit establishing a mitigation plan for minimizing risks to system performance and construction schedule.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions:
 - 1. Existing conductors and insulation where re-used for new equipment.

3.2 PREPARATION

- A. Electrical Installation Schedule: At preconstruction meeting, and periodically thereafter as dates change, provide schedule for electrical installation Work to Owner and Architect including, but not limited to, milestone dates for the following activities:
1. Submission of power system studies.
 2. Submission of specified coordination drawings.
 3. Submission of action submittals specified in Division 26.
 4. Orders placed for major electrical equipment.
 5. Arrival of major electrical equipment on-site.
 6. Preinstallation meetings specified in Division 26.
 7. Utility service outages.
 8. Utility service inspection and activation.
 9. Mockup reviews.
 10. Closing of walls and ceilings containing electrical Work.
 11. System startup, testing, and commissioning activities for major electrical equipment.
 12. System startup, testing, and commissioning activities for emergency lighting.
 13. System startup, testing, and commissioning activities for automation systems (SCADA, BMS, lighting, HVAC, fire alarm, fire pump, etc.).
 14. Pouring of concrete housekeeping pads for electrical equipment and testing of concrete samples.
 15. Requests for special inspections.
 16. Requests for inspections by authorities having jurisdiction.
- B. Coordination Drawings for Structural Supports: Show coordination of structural supports for equipment and devices, including restraints and bracing for control of seismic and wind loads, with other systems, equipment, and structural supports in the vicinity.
- C. Coordination Drawings for Ceiling Areas: Where indicated on Drawings, provide reflected ceiling plan(s), supplemented by sections and other details, drawn to scale, in accordance with Section 013100 "Project Management and Coordination," on which the following items are shown and coordinated with each other, using input from installers of the items involved:
1. Suspended ceiling components.
 2. Structural members to which equipment, luminaires, and suspension systems will be attached.
 3. Partitions and millwork that penetrate ceiling or extend to within 12 inch of plane of luminaires.
 4. Size and location of access panels on ceilings.
 5. Elevation, size, and route of sprinkler piping.
 6. Elevation, size, and route of plumbing piping.
 7. Elevation, size, and route of ductwork.
 8. Elevation, size, and route of cable tray.
 9. Elevation, size, and route of conduit.
 10. Elevation and size of wall-mounted and ceiling-mounted equipment.
 11. Moldings.

12. Access panels.
 13. Sprinklers.
 14. Air inlets and outlets.
 15. Control modules.
 16. Luminaires.
 17. Communications devices.
 18. Speakers.
 19. Ceiling-mounted projectors.
 20. Security devices.
 21. Fire-alarm devices.
 22. Indicate clear dimensions for maintenance access in front of equipment.
 23. Indicate dimensions of fully-open access doors.
- D. Coordination Drawings for Cable Tray Routing: Reflected ceiling plan(s), supplemented by sections and other details, drawn to scale, in accordance with Section 013100 "Project Management and Coordination," on which the following items are shown and coordinated with each other, using input from installers of the items involved:
1. Elevation, size, and route of cable trays.
 2. Relationships between components and adjacent structural, electrical, and mechanical elements.
 3. Vertical and horizontal offsets and transitions.
 4. Elevation and size of sleeves for wall, ceiling, and floor cable penetrations.
 5. Elevation of ceilings and size of ceiling tiles.
 6. Locations of access panels on ceilings.
 7. Locations where cable tray crosses or parallels sprinkler piping.
 8. Locations where cable tray crosses plumbing piping.
 9. Locations where cable tray crosses or parallels ductwork.
 10. Locations of access panels on ductwork.
 11. Locations where cable tray crosses conduit.
 12. Items blocking access around cable trays, including the following:
 - a. Light fixtures.
 - b. Speakers.
 - c. Fire-alarm devices.
 - d. Power outlets.
 - e. Wall-mounted equipment.
 - f. Equipment racks.
 - g. Furniture.
 - h. Door swings.
 - i. Building features.
 13. Indicate clear dimension between cable tray and walls or obstructions that are closer than 10 ft.
 14. Highlight locations where cable tray is greater than 3 ft above ceilings. Explain how personnel access will be accommodated for cable tray maintenance.

- E. Coordination Drawings for Conduit Routing: Conduit routing plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of items involved:
 - 1. Structural members in paths of conduit groups with common supports.
 - 2. HVAC and plumbing items and architectural features in paths of conduit groups with common supports.
- F. Coordination Drawings for Bus Assembly Routing: Floor plans and sections, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of items involved:
 - 1. Scaled bus-assembly layouts and relationships between components and adjacent structural, mechanical, and electrical elements.
 - 2. Vertical and horizontal enclosed bus-assembly runs, offsets, and transitions.
 - 3. Clearances for access above and to the side of enclosed bus assemblies.
 - 4. Vertical elevation of enclosed bus assemblies above the floor or bottom of structure.
 - 5. Support locations, type of support, and weight on each support.
 - 6. Location of adjacent construction elements including luminaires, HVAC and plumbing equipment, fire sprinklers and piping, signal and control devices, and other equipment.
- G. Coordination Drawings for Large Equipment Indoor Installations:
 - 1. Location plan, drawn to scale, showing heavy equipment or truck access paths to loading dock or other freight access into building. Indicate available width and height of doors or openings.
 - 2. Floor plan for entry floor and floor where equipment is located, drawn to scale, showing heavy equipment access paths for maintenance and replacement, with the following items shown and coordinated with each other, based on input from installers of the items involved:
 - a. Dimensioned concrete bases, outlines of equipment, conduit entries, and grounding equipment locations.
 - b. If freight elevator must be used, indicate width and height of door and depth of car. Indicate if large equipment must be tipped to use elevator.
 - c. Dimensioned working clearances and dedicated areas below and around electrical equipment where obstructions and tripping hazards are prohibited.
 - 3. Reflected ceiling plans for entry floor and floor where equipment is located, drawn to scale, on which the following items shown and coordinated with each other, based on input from installers of the items involved:
 - a. Support locations, type of support, and weight on each support. Locate structural supports for structure-supported raceways.
 - b. Location of lighting fixtures, sprinkler piping and sprinklers, ducts and diffusers, and other obstructions, indicating available overhead clearance.

- c. Dimensioned working clearances and dedicated areas above and around electrical equipment where foreign systems and equipment are prohibited.
 - H. Coordination Drawings for Large Equipment Outdoor Installations:
 - 1. Utilities site plan, drawn to scale, showing heavy equipment or truck access paths for maintenance and replacement, with the following items shown and coordinated with each other, based on input from installers of the items involved:
 - a. Fences and walls, dimensioned concrete bases, outlines of equipment, conduit entries, and grounding and bonding locations.
 - b. Indicate clear dimensions for fence gates and wall openings.
 - c. Indicate depth and type of ground cover, and locations of trees, shrubbery, and other obstructions in access path.
 - d. Indicate clear height below tree branches, overhead lines, bridges, and other overhead obstructions in access path, or where cranes and hoists will be needed to handle large electrical equipment.
 - e. Support locations, type of support, and weight on each support. Locate structural supports for structure-supported raceways.
 - f. Dimensioned working clearances and dedicated areas around electrical equipment.
 - I. Coordination Drawings for Duct Banks:
 - 1. Show duct profiles and coordination with other utilities and underground structures.
 - 2. Include plans and sections, drawn to scale, and show bends and locations of expansion fittings.
- 3.3 DELEGATED DESIGN OF STRUCTURAL PENETRATIONS
- A. Engage qualified structural professional engineer to design penetrations of structural masonry walls.
 - B. Delegated Design Drawings for Structural Masonry Wall Penetrations: Where indicated on Drawings, provide reflected ceiling plan(s), supplemented by elevations, sections, and other details, drawn to scale, signed and sealed by a qualified structural professional engineer, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
 - 1. Location and dimensions of structural members supporting wall.
 - 2. Location and dimensions of columns near penetrations.
 - 3. Location and dimension of headers and lintels.
 - 4. Doors and windows near penetrations.
 - 5. Location and dimensions of penetrating cuts.
 - 6. Sprinkler piping and sleeves.
 - 7. Plumbing piping and sleeves.
 - 8. Ductwork and sleeves.

9. Cable tray and sleeves.
10. Conduit and sleeves.
11. Firestopping assemblies for rated penetrations.
12. Structural supports for piping, ductwork, and conduit on both sides of wall.

3.4 INSTALLATION OF ELECTRICAL WORK

- A. Unless more stringent requirements are specified in the Contract Documents or manufacturers' written instructions, comply with NFPA 70 and NECA NEIS 1 for installation of Work specified in Division 26. Consult Architect for resolution of conflicting requirements.

3.5 SYSTEM STARTUP

- A. Commissioning Activities:
 1. Verify new equipment operability after installation.

3.6 FIELD QUALITY CONTROL

- A. Administrant for Low-Voltage Electrical Tests and Inspections:
 1. Owner will engage qualified low-voltage electrical testing and inspecting agency to administer and perform tests and inspections.
 2. Engage qualified low-voltage electrical testing and inspecting agency to administer and perform tests and inspections.
 3. Engage factory-authorized service representative to administer and perform tests and inspections on components, assemblies, and equipment installations, including connections.
 4. Administer and perform tests and inspections.
- B. Administrant for Structural Tests and Inspections:
 1. Owner will engage qualified structural testing and inspecting agency to administer and perform tests and inspections.
 2. Engage qualified structural testing and inspecting agency to administer and perform tests and inspections.
 3. Engage factory-authorized service representative to administer and perform tests and inspections on components, assemblies, and equipment installations, including connections.
 4. Administer and perform tests and inspections.
- C. Administrant for Field Tests and Inspections of Lighting Installations:
 1. Owner will engage qualified lighting testing and inspecting agency to administer and perform tests and inspections.

2. Engage qualified lighting testing and inspecting agency to administer and perform tests and inspections.
3. Engage factory-authorized service representative to administer and perform tests and inspections on components, assemblies, and equipment installations, including connections.
4. Administer and perform tests and inspections.

3.7 CLEANING

3.8 CLOSEOUT ACTIVITIES

A. Development of Facility EPM Program

1. Facility EPM Program must be developed by qualified EPM specialist.
2. Conduct Facility EPM Program analysis in accordance with NFPA 70B recommendations.
 - a. Renovation Projects:
 - 1) Facility diagrams must include connected existing equipment for entire facility where known. Areas of uncertainty should be clearly indicated.
 - 2) Obtain copies of existing operation and maintenance data and existing Facility EPM Program information from Owner.
 - 3) Facility EPM Program analysis should identify existing equipment that does not have available operation and maintenance data, and should explain the Owner's risks because this equipment is not included in Facility EPM Program.
 - 4) Data for existing equipment outside scope of Project may be inserted in Facility EPM Program Binders without analysis.
 - 5) Data for existing equipment impacted by scope of Project should be analyzed and documented similar to Project's new equipment data as much as possible.
3. Compile operation and maintenance data from Facility EPM Program analysis and submit Facility EPM Program Binders.
4. Organization of Facility EPM Program Binders:
 - a. Description: Set of binders containing operation and maintenance data for facility's electrical equipment that was compiled during analysis of installed electrical Work for Facility EPM Program development.
 - b. Referenced Standards: Content must comply with recommendations in NFPA 70B.
 - c. General Characteristics:
 - 1) Volume 1 - Introduction:
 - a) Summarize how Facility EPM Program Analysis was performed, how data were collected, and how volumes are organized.

- b) Describe Facility EPM Program and provide recommended policies and procedures for implementing the program and keeping it current.
 - c) Provide place for Owner to identify contact information for employees responsible for implementing and maintaining Facility EPM Program.
- 2) Volume 2 - Facility Safety, Hazards Awareness, and Emergency Procedures:
- a) Include training requirements for employees and contractors.
 - b) Include list of known facility hazards impacting IT&R activities.
 - c) Include approval and permitting procedures for IT&R activities.
 - d) Include incident emergency response procedures.
 - e) Include emergency shutdown procedures.
 - f) Include electrical disaster recovery procedures.
- 3) Volume 3 - Operating Procedures for Electrical Equipment and Controls:
- a) Include copies of demonstration and training videos.
- 4) Volume 4 - Facility Diagrams and Schedules:
- a) Include single-line diagrams.
 - b) Include grounding and bonding diagrams.
 - c) Include essential wiring diagrams.
 - d) Include system communications diagrams (WAN, LAN, Wi-Fi, ERCES, MNS, etc.)
 - e) Include system automation diagrams (SCADA, BMS, lighting, HVAC, etc.).
 - f) Include records of switchgear, switchboard, and panelboard schedules.
 - g) Include time-current curves for overcurrent protective devices.
 - h) Include list of load-current and overload-relay heaters with related motor nameplate data.
- 5) Volume 5 - Inventory of Facility Equipment Using Electrical Power:
- a) Include simplified floor plans showing equipment locations.
 - b) Identify critical equipment (electrical or otherwise).
 - c) Include identifying designations and nameplate data.
 - d) Include warranty and maintenance contract information.
- 6) Volume 6 - Inventory of Facility Tools, Supplies, and Personnel Protective Equipment:
- a) Include schedules of maintenance material items recommended to be stored at facility.

- b) Include list of lamp types and photoelectric relays used in facility with ANSI and manufacturers' codes.
 - c) Include calibration and servicing data for each item.
 - 7) Volume 7 - Inspection, Testing, and Repair (IT&R) Plan:
 - a) Include tables showing frequency of activities for each item.
 - b) Include annual schedule with activities mapped to specific days of the year.
 - c) Include exterior pole inspection and repair procedures.
 - 8) Volume 10 - Spare Parts List:
 - a) Include list of all parts required to perform IT&R procedures.
 - b) Identify quantities of which parts are recommended to be stored on-site.
 - c) Include source contact information and budget cost for each item.
 - 9) Volume 11 - Construction Project Closeout Record Documentation:
 - a) Include records of power system studies and photometric studies.
 - b) Include records of risk assessment studies.
 - c) Include records of electrical system startup and commissioning activities.
 - d) Include records of baseline inspections and tests.
 - e) Include records of baseline infrared photographs with normal light photographs showing the location, direction, angle, and conditions necessary for reproducing each infrared photograph.
 - f) Include records of baseline settings for adjustable equipment and devices.
- B. Operation and Maintenance Data: Prepare and submit the following:
 - 1. Include the following information:
 - a. Manufacturer's operating specifications.
 - b. User's guides for software and hardware.
 - c. Schedule of maintenance material items recommended to be stored at Project site.
 - d. Detailed instructions covering operation under both normal and abnormal conditions.
 - e. Time-current curves for overcurrent protective devices and manufacturer's written instructions for testing and adjusting their settings.
 - f. List of load-current and overload-relay heaters with related motor nameplate data.
 - g. List of lamp types and photoelectric relays used on Project, with ANSI and manufacturers' codes.

- h. Manufacturer's instructions for setting field-adjustable components.
 - i. Manufacturer's instructions for testing, adjusting, and reprogramming microprocessor controls.
 - j. EPSS: Manufacturer's system checklists, maintenance schedule, and maintenance log sheets in accordance with NFPA 110.
 - k. Exterior pole inspection and repair procedures.
 - l. Include copies of demonstration and training videos.
- C. Software and Firmware Operational Documentation: Provide software and firmware operational documentation, including the following:
 - 1. Software operating and upgrade manuals.
 - 2. Names, versions, and website addresses for locations of installed software.
 - 3. Device address list.
 - 4. Printout of software application and graphic screens.
 - 5. Testing and adjusting of panic and emergency power features.
 - 6. For lighting controls, include the following:
 - a. Adjustments of scene preset controls, adjustable fade rates, and fade overrides.
 - b. Operation of adjustable zone controls.
- D. Software:
 - 1. Program Software Backup: Provide USB media that is clearly and permanently labeled with attached placard on lanyard to prevent misplacement.
 - 2. Provide to Owner upgrades and unrestricted licenses for Government use for installed and backup software, including operating systems and programming tools required for operation and maintenance.
- E. Demonstration: Demonstrate to Owner's maintenance and clerical personnel how to operate the following systems and equipment:
 - 1. Lighting control devices specified in Section 260923 "Lighting Control Devices."
 - 2. Lighting control systems specified in Section 260943.16 "Addressable Luminaire Lighting Controls."
 - 3. Lighting control systems specified in Section 260943.23 "Relay-Based Lighting Controls."
 - 4. Electronic metering and billing software specified in Section 262713 "Electricity Metering."
- F. Training: Train Owner's maintenance personnel on the following topics:
 - 1. How to implement updated Facility EPM Program.
 - 2. How to adjust, operate, and maintain equipment specified in Section 111136 "Vehicle Charging Equipment."
 - 3. How to operate normal and emergency electrical systems, including justifications for, and limitations of, protective device settings recommended in study report specified in Section 260573.16 "Coordination Studies."

4. Electrical power safety fundamentals refresher including arc-flash hazard safety features of electrical power distribution equipment in facility, interpreting arc-flash warning labels, selecting appropriate personal protective equipment, and understanding significance of findings documented in study report specified in Section 260573.19 "Arc-Flash Hazard Analysis."
5. How to adjust, operate, and maintain systems specified in Section 260913 "Electrical Power Monitoring."
6. How to adjust, operate, and maintain devices specified in Section 260923 "Lighting Control Devices."
7. How to adjust, operate, and maintain hardware and software specified in Section 260936 "Modular Dimming Controls."
8. How to adjust, operate, and maintain hardware and software specified in Section 260943.16 "Addressable Luminaire Lighting Controls."
9. How to adjust, operate, and maintain hardware and software specified in Section 260943.23 "Relay-Based Lighting Controls."
10. How to adjust, operate, and maintain equipment specified in Section 261116.11 "Secondary Unit Substations with Switchgear Secondary."
11. How to adjust, operate, and maintain equipment specified in Section 261116.12 "Secondary Unit Substations with Switchboard Secondary."
12. How to adjust, operate, and maintain equipment specified in Section 261116.13 "Secondary Unit Substations with Motor Control Center Secondary."
13. How to adjust, operate, and maintain equipment specified in Section 261213 "Liquid-Filled, Medium-Voltage Transformers."
14. How to adjust, operate, and maintain equipment specified in Section 261216 "Dry-Type, Medium-Voltage Transformers."
15. How to adjust, operate, and maintain equipment specified in Section 261219 "Pad-Mounted, Liquid-Filled, Medium-Voltage Transformers."
16. How to adjust, operate, and maintain equipment specified in Section 261323 "Medium-Voltage Metal-Enclosed Switchgear."
17. How to adjust, operate, and maintain equipment specified in Section 261326 "Medium-Voltage Metal-Clad Switchgear."
18. How to adjust, operate, and maintain equipment specified in Section 261329 "Medium-Voltage Compartmentalized Switchgear."
19. How to adjust, operate, and maintain equipment specified in Section 262300 "Low-Voltage Switchgear."
20. How to adjust, operate, and maintain equipment specified in Section 262313 "Paralleling Low-Voltage Switchgear."
21. How to adjust, operate, and maintain switchboards, overcurrent protective devices, instrumentation, and accessories specified in Section 262413 "Switchboards."
22. How to adjust, operate, and maintain control modules specified in Section 262416.16 "Electronically Operated Circuit-Breaker Panelboards."
23. How to adjust, operate, and maintain enclosed controllers specified in Section 262419 "Motor-Control Centers."
24. How to adjust, operate, and maintain hardware and software specified in Section 262713 "Electricity Metering."

25. How to adjust, operate, and maintain equipment specified in Section 262733 "Power Distribution Units."
26. How to adjust, operate, and maintain equipment specified in Section 262913.03 "Manual and Magnetic Motor Controllers."
27. How to adjust, operate, and maintain equipment specified in Section 262913.06 "Soft-Start Motor Controllers."
28. How to adjust, operate, and maintain equipment specified in Section 262923 "Variable-Frequency Motor Controllers."
29. How to adjust, operate, and maintain controllers specified in Section 262933 "Controllers for Fire Pump Drivers."
30. How to adjust, operate, and maintain equipment specified in Section 263100 "Photovoltaic Collectors."
31. How to adjust, operate, and maintain equipment specified in Section 263213.13 "Diesel-Engine-Driven Generator Sets."
32. How to adjust, operate, and maintain equipment specified in Section 263213.16 "Gas-Engine-Driven Generator Sets."
33. How to adjust, operate, and maintain equipment specified in Section 263213.19 "Bi-Fuel-Engine-Driven Generator Sets."
34. How to adjust, operate, and maintain equipment specified in Section 263323.11 "Central Battery Equipment for Emergency Lighting."
35. How to adjust, operate, and maintain equipment specified in Section 263343 "Battery Chargers."
36. How to adjust, operate, and maintain equipment specified in Section 263353 "Static Uninterruptible Power Supply."
37. How to adjust, operate, and maintain equipment specified in Section 263533 "Power Factor Correction Equipment."
38. How to adjust, operate, and maintain transfer switches and related equipment, including ground-fault protection system, specified in Section 263600 "Transfer Switches."
39. How to adjust, operate, and maintain devices specified in Section 264313 "Surge Protective Devices for Low-Voltage Electrical Power Circuits."
40. How to adjust, operate, and maintain stage lighting equipment specified in Section 265561 "Theatrical Lighting."
41. How to adjust, operate, and maintain luminaires specified in Section 265617 "Fluorescent Exterior Lighting."
42. How to adjust, operate, and maintain luminaires specified in Section 265619 "LED Exterior Lighting."
43. How to adjust, operate, and maintain luminaires specified in Section 265621 "HID Exterior Lighting."

END OF SECTION 260010

SECTION 260519 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Copper building wire.
2. Aluminum building wire.
3. Nonmetallic underground conduit with conductors, Type NUCC.
4. Metal-clad cable, Type MC.
5. Armored cable, Type AC.
6. Photovoltaic cable, Type PV.
7. Mineral-insulated cable, Type MI.
8. Tray cable, Type TC.
9. Fire-alarm wire and cable.
10. Connectors and splices.

B. Related Requirements:

1. Section 260010 "Supplemental Requirements for Electrical" for additional abbreviations, definitions, submittals, qualifications, testing agencies, and other Project requirements applicable to Work specified in this Section.
2. Section 260011 "Facility Performance Requirements for Electrical" for seismic-load, wind-load, acoustical, and other field conditions applicable to Work specified in this Section.
3. Section 260513 "Medium-Voltage Cables" for single-conductor and multiconductor cables, cable splices, and terminations for electrical distribution systems with 601 to 35 000 V.
4. Section 260523 "Control-Voltage Electrical Power Cables" for control systems communications cables and Classes 1, 2, and 3 control cables.
5. Section 271313 "Communications Copper Backbone Cabling" for twisted pair cabling used for data circuits.
6. Section 271513 "Communications Copper Horizontal Cabling" for twisted pair cabling used for data circuits.

1.2 ACTION SUBMITTALS

A. Product Data:

1. Copper building wire.
2. Aluminum building wire.
3. Nonmetallic underground conduit with conductors, Type NUCC.

4. Metal-clad cable, Type MC.
5. Armored cable, Type AC.
6. Photovoltaic cable, Type PV.
7. Mineral-insulated cable, Type MI.
8. Tray cable, Type TC.
9. Fire-alarm wire and cable.
10. Connectors and splices.

- B. Product Schedule: Indicate type, use, location, and termination locations.

1.3 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

PART 2 - PRODUCTS

2.1 COPPER BUILDING WIRE

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Alpha Wire; brand of Belden, Inc.
 2. Belden Inc.
 3. Cerro Wire LLC.
 4. Encore Wire Corporation.
 5. General Cable; Prysmian Group North America.
 6. Okonite Company (The).
 7. Service Wire Co.
 8. Southwire Company, LLC.
 9. WESCO.
- B. Description: Flexible, insulated and uninsulated, drawn copper current-carrying conductor with an overall insulation layer or jacket, or both, rated 600 V or less.
- C. Standards:
1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
 2. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."
- D. Conductors: Copper, complying with ASTM B3 for bare annealed copper and with ASTM B8 for stranded conductors.
- E. Conductor Insulation:

1. Type NM. Comply with UL 83 and UL 719.
2. Type RHH and Type RHW-2. Comply with UL 44.
3. Type USE-2 and Type SE. Comply with UL 854.
4. Type TC-ER. Comply with NEMA WC 70/ICEA S-95-658 and UL 1277.
5. Type THHN and Type THWN-2. Comply with UL 83.
6. Type THW and Type THW-2. Comply with NEMA WC-70/ICEA S-95-658 and UL 83.
7. Type UF. Comply with UL 83 and UL 493.
8. Type XHHW-2. Comply with UL 44.

F. Shield:

1. Type TC-ER: Cable designed for use with ASDs, with oversized crosslinked polyethylene insulation, spiral-wrapped foil plus 85 percent coverage braided shields and insulated full-size ground wire, and sunlight- and oil-resistant outer PVC jacket.

2.2 ALUMINUM BUILDING WIRE

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Alpha Wire; brand of Belden, Inc.
2. Belden Inc.
3. Encore Wire Corporation.
4. General Cable; Prysmian Group North America.
5. Okonite Company (The).
6. Southwire Company, LLC.
7. WESCO.

B. Description: Flexible, insulated and uninsulated, drawn aluminum current-carrying conductor with an overall insulation layer or jacket, or both, rated 600 V or less.

C. Standards:

1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
2. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."

D. Conductors: Aluminum, complying with ASTM B800 and ASTM B801.

E. Conductor Insulation:

1. Type NM. Comply with UL 83 and UL 719.
2. Type RHH and Type RHW-2. Comply with UL 44.
3. Type USE-2 and Type SE. Comply with UL 854.
4. Type TC-ER. Comply with NEMA WC 70/ICEA S-95-658 and UL 1277.

5. Type THHN and Type THWN-2. Comply with UL 83.
6. Type THW and Type THW-2. Comply with NEMA WC-70/ICEA S-95-658 and UL 83.
7. Type XHHW-2. Comply with UL 44.

2.3 NONMETALLIC UNDERGROUND CONDUIT WITH CONDUCTORS, TYPE NUCC

- A. Description: A factory assembly of conductors or cables inside a nonmetallic, smooth wall raceway with a circular cross section.
- B. Applicable Standards:
 1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70 and marked for intended location and use.
 2. General Characteristics:
 - a. Reference Standards: UL 1990.

2.4 METAL-CLAD CABLE, TYPE MC

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. AFC Cable Systems; Atkore International.
 2. Alpha Wire; brand of Belden, Inc.
 3. Belden Inc.
 4. Cerro Wire LLC.
 5. Encore Wire Corporation.
 6. General Cable; Prysmian Group North America.
 7. Okonite Company (The).
 8. Southwire Company, LLC.
 9. WESCO.
- B. Description: A factory assembly of one or more current-carrying insulated conductors in an overall metallic sheath.
- C. Standards:
 1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
 2. Comply with UL 1569.
 3. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."
- D. Circuits:
 1. Single circuit and multicircuit with color-coded conductors.

- 2. Power-Limited Fire-Alarm Circuits: Comply with UL 1424.
 - E. Conductors: Copper, complying with ASTM B3 for bare annealed copper and with ASTM B8 for stranded conductors.
 - F. Ground Conductor: Bare.
 - G. Conductor Insulation:
 - 1. Type TFN/THHN/THWN-2. Comply with UL 83.
 - 2. Type XHHW-2. Comply with UL 44.
 - H. Armor: Steel, interlocked.
 - I. Jacket: PVC applied over armor.
- 2.5 ARMORED CABLE, TYPE AC
- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. AFC Cable Systems; Atkore International.
 - 2. Alpha Wire; brand of Belden, Inc.
 - 3. Belden Inc.
 - 4. Encore Wire Corporation.
 - 5. General Cable; Prysmian Group North America.
 - 6. Okonite Company (The).
 - 7. Southwire Company, LLC.
 - 8. WESCO.
 - B. Description: A factory assembly of insulated current-carrying conductors with or without an equipment grounding conductor in an overall metallic sheath.
 - C. Standards:
 - 1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
 - 2. Comply with UL 4.
 - 3. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."
 - D. Circuits:
 - 1. Single circuit and multicircuit with color-coded conductors.
 - 2. Power-Limited Fire-Alarm Circuits: Comply with UL 1424.

- E. Conductors: Copper, complying with ASTM B3 for bare annealed copper and with ASTM B8 for stranded conductors.
- F. Ground Conductor: Bare.
- G. Conductor Insulation: Type THHN/THWN-2. Comply with UL 83.
- H. Armor: Steel, interlocked.

2.6 PHOTOVOLTAIC CABLE, TYPE PV

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Encore Wire Corporation.
 - 2. General Cable; Prysmian Group North America.
 - 3. Service Wire Co.
 - 4. Southwire Company, LLC.
- B. Description: Flexible, insulated and uninsulated, drawn copper current-carrying conductor with an overall insulation layer or jacket, or both, rated 600 V.
- C. Standards:
 - 1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
 - 2. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."
- D. Conductors: Copper, complying with ASTM B3 for bare annealed copper and with ASTM B8 for stranded conductors.
- E. Conductor Insulation: Comply with UL 44 and UL 4703.

2.7 MINERAL-INSULATED CABLE, TYPE MI

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. KME America, Inc.
 - 2. PYROTENAX; brand of nVent Electrical plc.
 - 3. Watlow Electric Manufacturing Company.
- B. Description: Solid copper conductors encased in compressed metal oxide with an outer metallic sheath, rated 600 V or less.
- C. Standards:

1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
 2. UL 2196 for fire resistance.
 3. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."
- D. Conductors: Copper, complying with ASTM B3 for bare annealed copper.
- E. Insulation: Compressed magnesium oxide.
- F. Sheath: Copper.

2.8 TRAY CABLE, TYPE TC

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Alpha Wire; brand of Belden, Inc.
 2. Belden Inc.
 3. Encore Wire Corporation.
 4. General Cable; Prysmian Group North America.
 5. Okonite Company (The).
 6. Southwire Company, LLC.
 7. WESCO.
- B. Description: A factory assembly of insulated current-carrying conductors with or without an equipment grounding conductor in a nonmetallic jacket.
- C. Standards:
1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
 2. Comply with UL 1277.
 3. Comply with ICEA S-73-532/NEMA WC 57 for Type TC cables used for control, thermocouple extension, and instrumentation.
 4. Comply with ICEA S-95-658/NEMA WC 70 for Type TC cables used for power distribution.
 5. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."
- D. Conductors: Copper, complying with ASTM B3 for bare annealed copper and with ASTM B8 for stranded conductors.
- E. Ground Conductor: Bare.
- F. Conductor Insulation: Type XHHW-2. Comply with UL 44.

- G. Shield: None.

2.9 FIRE-ALARM WIRE AND CABLE

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Allied Wire & Cable Inc.
2. CommScope, Inc.
3. Comtran Corporation.
4. Genesis; Resideo Technologies, Inc.
5. PYROTENAX; brand of nVent Electrical plc.
6. Prysmian Cables and Systems; Prysmian Group North America.
7. Radix Wire.
8. Rockbestos-Suprenant Cable Corp.
9. Superior Essex Inc.; subsidiary of LS Corp.
10. West Penn Wire; brand of Belden, Inc.
11. Cerro Wire LLC.

- B. Signaling Line Circuits: Twisted, shielded pair, not less than No. 18 AWG size as recommended by system manufacturer.

1. Circuit Integrity Cable: Twisted shielded pair, NFPA 70, Article 760, Classification CI, for power-limited fire-alarm signal service Type FPL. NRTL listed and labeled as complying with UL 1424 and UL 2196 for a two-hour rating.

- C. Non-Power-Limited Circuits: Solid-copper conductors with 600 V rated, 75 deg C, color-coded insulation, and complying with requirements in UL 2196 for a two-hour rating.

1. Low-Voltage Circuits: No. 16 AWG, minimum, in pathway.
2. Line-Voltage Circuits: No. 12 AWG, minimum, in pathway.
3. Multiconductor Armored Cable: NFPA 70, Type MC, copper conductors, Type TFN/THHN conductor insulation, copper drain wire, copper armor with red identifier stripe, NTRL listed for fire-alarm and cable tray installation, plenum rated.

2.10 CONNECTORS AND SPLICES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. 3M Electrical Products.
2. ABB, Electrification Business.
3. AFC Cable Systems; Atkore International.
4. Gardner Bender.
5. Hubbell Utility Solutions; Hubbell Incorporated.
6. ILSCO.

7. Ideal Industries, Inc.
 8. NSi Industries LLC.
 9. O-Z/Gedney; brand of Emerson Electric Co., Automation Solutions, Appleton Group.
 10. Service Wire Co.
 11. TE Connectivity Ltd.
 12. Burndy; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
- B. Description: Factory-fabricated connectors, splices, and lugs of size, ampacity rating, material, type, and class for application and service indicated; listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
- C. Jacketed Cable Connectors: For steel and aluminum jacketed cables, zinc die-cast with set screws, designed to connect conductors specified in this Section.
- D. Lugs: One piece, seamless, designed to terminate conductors specified in this Section.
1. Material: Copper.
 2. Type: One hole with standard barrels.
 3. Termination: Compression.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

- A. Feeders:
1. Copper; solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.
 2. Copper for feeders smaller than No. 4 AWG; copper or aluminum for feeders No. 4 AWG and larger. Conductors must be solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.
- B. Branch Circuits:
1. Copper:
 - a. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.
 - b. Solid for No. 12 AWG and smaller; stranded for No. 10 AWG and larger.
- C. ASD Output Circuits Cable: Extra-flexible stranded for all sizes.
- D. Power-Limited Fire Alarm and Control: Solid for No. 12 AWG and smaller.
- E. PV Circuits: Copper. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

- A. Service Entrance: Type THHN/THWN-2, single conductors in raceway.
- B. Exposed Feeders: Metal-clad cable, Type MC.
- C. Feeders Concealed in Ceilings, Walls, Partitions, and Crawlspace: Metal-clad cable, Type MC.
- D. Feeders Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN/THWN-2, single conductors in raceway.
- E. Feeders Installed below Raised Flooring: Metal-clad cable, Type MC.
- F. Feeders in Cable Tray: Type MI Nonmetallic-sheathed cable, Type NM.
- G. Exposed Branch Circuits, Including in Crawlspace: Metal-clad cable, Type MC.
- H. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Metal-clad cable, Type MC.
- I. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN/THWN-2, single conductors in raceway.
- J. Branch Circuits Installed below Raised Flooring: Metal-clad cable, Type MC.
- K. Branch Circuits in Cable Tray: Nonmetallic-sheathed cable, Type NM.
- L. Cord Drops and Portable Appliance Connections: Type SO, hard service cord with stainless steel, wire-mesh, strain relief device at terminations to suit application.
- M. ASD Output Circuits: Type XHHW-2 in metal conduit.
- N. PV Circuits, Type USE-2: For PV source circuits rated at 600 V or less.
- O. PV Circuits, Type PV: For PV source circuits rated at 600 V.

3.3 INSTALLATION, GENERAL

- A. Conceal cables in finished walls, ceilings, and floors unless otherwise indicated.
- B. Complete raceway installation between conductor and cable termination points in accordance with Section 260533.13 "Conduits for Electrical Systems" prior to pulling conductors and cables.
- C. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.

- D. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.
- E. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.
- F. Support cables according to Section 260529 "Hangers and Supports for Electrical Systems."
- G. Complete cable tray systems installation according to Section 260536 "Cable Trays for Electrical Systems" prior to installing conductors and cables.

3.4 INSTALLATION OF FIRE-ALARM WIRE AND CABLE

- A. Comply with NFPA 72.
- B. Wiring Method: Install wiring in metal pathway according to Section 270528.29 "Hangers and Supports for Communications Systems."
 - 1. Install plenum cable in environmental airspaces, including plenum ceilings.
 - 2. Fire-alarm circuits and equipment control wiring associated with fire-alarm system must be installed in a dedicated pathway system.
 - a. Cables and pathways used for fire-alarm circuits, and equipment control wiring associated with fire-alarm system, may not contain any other wire or cable.
 - 3. Fire-Rated Cables: Use of two-hour, fire-rated fire-alarm cables, NFPA 70, Types MI and CI, is permitted.
 - 4. Signaling Line Circuits: Power-limited fire-alarm cables may be installed in the same cable or pathway as signaling line circuits.
- C. Wiring within Enclosures: Separate power-limited and non-power-limited conductors as recommended by manufacturer. Install conductors parallel with or at right angles to sides and back of the enclosure. Bundle, lace, and train conductors to terminal points with no excess. Connect conductors that are terminated, spliced, or interrupted in any enclosure associated with fire-alarm system to terminal blocks. Mark each terminal according to system's wiring diagrams. Make all connections with approved crimp-on terminal spade lugs, pressure-type terminal blocks, or plug connectors.
- D. Cable Taps: Use numbered terminal strips in junction, pull, and outlet boxes; cabinets; or equipment enclosures where circuit connections are made.
- E. Color-Coding: Color-code fire-alarm conductors differently from the normal building power wiring. Use one color-code for alarm circuit wiring and another for supervisory circuits. Color-code audible alarm-indicating circuits differently from alarm-initiating circuits. Use different colors for visible alarm-indicating devices. Paint fire-alarm system junction boxes and covers red.

- F. Risers: Install at least two vertical cable risers to serve the fire-alarm system. Separate risers in close proximity to each other with a minimum one-hour-rated wall, so the loss of one riser does not prevent receipt or transmission of signals from other floors or zones.
- G. Wiring to Remote Alarm Transmitting Device: 1 inch (25 mm) conduit between the fire-alarm control panel and the transmitter. Install number of conductors and electrical supervision for connecting wiring as needed to suit monitoring function.

3.5 CONNECTIONS

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A-486B.
- B. Make splices, terminations, and taps that are compatible with conductor material.
 - 1. Use oxide inhibitor in each splice, termination, and tap for aluminum conductors.
- C. Wiring at Outlets: Install conductor at each outlet, with at least 6 inch (150 mm) of slack.
- D. Comply with requirements in Section 284621.11 "Addressable Fire-Alarm Systems" for connecting, terminating, and identifying wires and cables.

3.6 IDENTIFICATION

- A. Identify and color-code conductors and cables according to Section 260553 "Identification for Electrical Systems."
- B. Identify each spare conductor at each end with identity number and location of other end of conductor, and identify as spare conductor.

3.7 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR ELECTRICAL PENETRATIONS

- A. Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies. Comply with requirements in Section 260544 "Sleeves and Sleeve Seals for Electrical Raceways and Cabling."

3.8 FIRESTOPPING

- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly according to Section 078413 "Penetration Firestopping."

3.9 FIELD QUALITY CONTROL

END OF SECTION 260519

SECTION 260523 - CONTROL-VOLTAGE ELECTRICAL POWER CABLES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Backboards.
2. Category 5e balanced twisted pair cable.
3. Category 6 balanced twisted pair cable.
4. Category 6a balanced twisted pair cable.
5. Balanced twisted pair cable hardware.
6. Twin-axial data highway cable.
7. RS-232 cable.
8. RS-485 cable.
9. Control cable.
10. Control-circuit conductors.
11. Fire-alarm wire and cable.

B. Related Requirements:

1. Section 260010 "Supplemental Requirements for Electrical" for additional abbreviations, definitions, submittals, qualifications, testing agencies, and other Project requirements applicable to Work specified in this Section.
2. Section 260011 "Facility Performance Requirements for Electrical" for seismic-load, wind-load, acoustical, and other field conditions applicable to Work specified in this Section.

1.2 ACTION SUBMITTALS

A. Product Data:

1. Category 5e balanced twisted pair cable.
2. Category 6 balanced twisted pair cable.
3. Category 6a balanced twisted pair cable.
4. Balanced twisted pair cable hardware.
5. Twin-axial data highway cable.
6. RS-232 cable.
7. RS-485 cable.
8. Control cable.
9. Control-circuit conductors.

1.3 INFORMATIONAL SUBMITTALS

A. Source quality-control reports.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Flame Travel and Smoke Density in Plenums: As determined by testing identical products according to NFPA 262, by a qualified testing agency. Identify products for installation in plenums with appropriate markings of applicable testing agency.
 - 1. Flame Travel Distance: 60 inch or less.
 - 2. Peak Optical Smoke Density: 0.5 or less.
 - 3. Average Optical Smoke Density: 0.15 or less.
- C. Flame Travel and Smoke Density for Riser Cables in Non-Plenum Building Spaces: As determined by testing identical products according to UL 1666.
- D. Flame Travel and Smoke Density for Cables in Non-Riser Applications and Non-Plenum Building Spaces: As determined by testing identical products according to UL 1685.

2.2 CATEGORY 5e BALANCED TWISTED PAIR CABLE

- A. Description: Four-pair, balanced-twisted pair cable, certified to meet transmission characteristics of Category 5e cable at frequencies up to 100 MHz.
- B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - 1. AMP NETCONNECT; a TE Connectivity Ltd. company.
 - 2. Belden Inc.
 - 3. Berk-Tek, a Leviton Company.
 - 4. CommScope, Inc.
 - 5. General Cable; Prysmian Group North America.
 - 6. Hitachi Cable America Inc.
 - 7. Mohawk; a division of Belden Networking, Inc.
 - 8. West Penn Wire; brand of Belden, Inc.
- C. Standard: Comply with ICEA S-90-661, NEMA WC 63.1, and TIA-568-C.2 for Category 5e cables.
- D. Conductors: 100 ohm, No. 24 AWG solid copper.
- E. Shielding/Screening: Unshielded twisted pairs (UTP) or Shielded twisted pairs (FTP). Coordinate with manufacturer requirements.
- F. Cable Rating: Plenum.

- G. Jacket: Building standard color thermoplastic.

2.3 CATEGORY 6 BALANCED TWISTED PAIR CABLE

- A. Description: Four-pair, balanced-twisted pair cable, certified to meet transmission characteristics of Category 6 cable at frequencies up to 250 MHz.
- B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
1. 3M.
 2. AMP NETCONNECT; a TE Connectivity Ltd. company.
 3. Belden Inc.
 4. Berk-Tek, a Leviton Company.
 5. CommScope, Inc.
 6. General Cable; Prysmian Group North America.
 7. Genesis; Resideo Technologies, Inc.
 8. Hitachi Cable America Inc.
 9. Mohawk; a division of Belden Networking, Inc.
 10. Prysmian Cables and Systems; Prysmian Group North America.
 11. Superior Essex Inc.; subsidiary of LSCorp.
- C. Standard: Comply with NEMA WC 66/ICEA S-116-732 and TIA-568-C.2 for Category 6 cables.
- D. Conductors: 100 ohm, No. 23 AWG solid copper.
- E. Shielding/Screening: Unshielded twisted pairs (UTP) or Shielded twisted pairs (FTP). Coordinate with manufacturer requirements.
- F. Cable Rating: Plenum.
- G. Jacket: Building standard color thermoplastic.

2.4 CATEGORY 6a BALANCED TWISTED PAIR CABLE

- A. Description: Four-pair, balanced-twisted pair cable, certified to meet transmission characteristics of Category 6a cable at frequencies up to 500 MHz.
- B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
1. 3M.
 2. AMP NETCONNECT; a TE Connectivity Ltd. company.
 3. Belden Inc.
 4. Berk-Tek, a Leviton Company.
 5. CommScope, Inc.
 6. General Cable; Prysmian Group North America.
 7. Genesis; Resideo Technologies, Inc.
 8. Hitachi Cable America Inc.

9. [Mohawk; a division of Belden Networking, Inc.](#)
10. [Prysmian Cables and Systems; Prysmian Group North America.](#)
11. [Superior Essex Inc.; subsidiary of LSCorp.](#)

- C. Standard: Comply with TIA-568-C.2 for Category 6a cables.
- D. Conductors: 100 ohm, No. 23 AWG solid copper.
- E. Shielding/Screening: Unshielded twisted pairs (UTP) or Shielded twisted pairs (FTP). Coordinate with manufacturer requirements.
- F. Cable Rating: Plenum.
- G. Jacket: Building standard color thermoplastic.

2.5 BALANCED TWISTED PAIR CABLE HARDWARE

- A. Description: Hardware designed to connect, splice, and terminate balanced twisted pair copper communications cable.
- B. [Manufacturers:](#) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 1. [3M.](#)
 2. [AMP NETCONNECT; a TE Connectivity Ltd. company.](#)
 3. [American Technology Systems Industries, Inc.](#)
 4. [Belden Inc.](#)
 5. [Berk-Tek, a Leviton Company.](#)
 6. [CommScope, Inc.](#)
 7. [Dynacom Corporation.](#)
 8. [General Cable; Prysmian Group North America.](#)
 9. [Genesis; Resideo Technologies, Inc.](#)
 10. [Hubbell Premise Wiring; brand of Hubbell Electrical Solutions; Hubbell Incorporated.](#)
 11. [Leviton Manufacturing Co., Inc.](#)
 12. [Mohawk; a division of Belden Networking, Inc.](#)
 13. [Molex Premise Networks.](#)
 14. [Panduit Corp.](#)
 15. [Prysmian Cables and Systems; Prysmian Group North America.](#)
 16. [Siemon Co. \(The\).](#)
 17. [Superior Essex Inc.; subsidiary of LSCorp.](#)
- C. Source Limitations: Obtain balanced twisted pair cable hardware from single source from single manufacturer.
- D. Connecting Blocks: Provide blocks for the number of cables terminated on the block, plus 25 percent spare, integral with connector bodies, including plugs and jacks where indicated.
- E. Cross-Connect: Modular array of connecting blocks arranged to terminate building cables and permit interconnection between cables.

1. Number of Terminals per Field: One for each conductor in assigned cables.
- F. Patch Panel: Modular panels housing numbered jack units with IDC-type connectors at each jack location for permanent termination of pair groups of installed cables.
1. Features:
 - a. Universal T568A and T568B wiring labels.
 - b. Labeling areas adjacent to conductors.
 - c. Replaceable connectors.
 - d. 24 or 48 ports.
 2. Construction: 16-gauge steel and mountable on 19 inch equipment racks.
- G. Patch Cords: Factory-made, four-pair cables in 36 inch or 48 inch lengths; terminated with an eight-position modular plug at each end.
1. Patch cords must have bend-relief-compliant boots and color-coded icons to ensure performance. Patch cords must have latch guards to protect against snagging.
 2. Patch cords must have color-coded boots for circuit identification.
- H. Plugs and Plug Assemblies:
1. Male; eight position; color-coded modular telecommunications connector designed for termination of a single four-pair 100 ohm unshielded or shielded balanced twisted pair cable.
 2. Comply with IEC 60603-7-1, IEC 60603-7-2, IEC 60603-7-3, IEC 60603-7-4, and IEC 60603-7.5.
 3. Marked to indicate transmission performance.
- I. Jacks and Jack Assemblies:
1. Female; eight position; modular; fixed telecommunications connector designed for termination of a single four-pair 100 ohm unshielded or shielded balanced twisted pair cable.
 2. Designed to snap-in to a patch panel or faceplate.
 3. Standards:
 - a. Category 5e, unshielded balanced twisted pair cable must comply with IEC 60603-7-2.
 - b. Category 5e, shielded balanced twisted pair cable must comply with IEC 60603-7-3.
 - c. Category 6, unshielded balanced twisted pair cable must comply with IEC 60603-7-4.
 - d. Category 6, shielded balanced twisted pair cable must comply with IEC 60603-7.5.
 - e. Category 6a, unshielded balanced twisted pair cable must comply with IEC 60603-7-41.
 - f. Category 6a, shielded balanced twisted pair cable must comply with IEC 60603-7.51.

4. Marked to indicate transmission performance.

J. Legend:

1. Machine printed, in the field, using adhesive-tape label.
2. Snap-in, clear-label covers and machine-printed paper inserts.

2.6 TWIN-AXIAL DATA HIGHWAY CABLE

A. Standard Cable: NFPA 70, Type CM.

1. Paired, No. 20 AWG, stranded (7x28) tinned-copper conductors.
2. Polypropylene insulation.
3. Individual aluminum foil-polyester tape shielded pairs with 100 percent shield coverage.
4. PVC jacket.
5. Pairs are cabled on common axis with No. 24 AWG, stranded (7x32) tinned-copper drain wire.
6. Flame Resistance: Comply with UL 1685.

B. Plenum-Rated Cable: NFPA 70, Type CMP.

1. Paired, No. 20 AWG, stranded (7x28) tinned-copper conductors.
2. Plastic insulation.
3. Individual aluminum foil-polyester tape shielded pairs with 100 percent shield coverage.
4. Plastic jacket.
5. Pairs are cabled on common axis with No. 24 AWG, stranded (7x32) tinned-copper drain wire.
6. Flame Resistance: Comply with NFPA 262.

2.7 RS-232 CABLE

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Allied Wire & Cable Inc.
2. Belden Inc.
3. General Cable; Prysmian Group North America.
4. Genesis; Resideo Technologies, Inc.
5. Southwire Company, LLC.

B. PVC-Jacketed, TIA 232-F:

1. Three or Nine, No. 22 AWG, stranded (7x30) tinned copper conductors.
2. Polypropylene insulation.
3. Aluminum foil-polyester tape shield with 100 percent shield coverage.
4. PVC jacket.
5. Conductors are cabled on common axis with No. 24 AWG, stranded (7x32) tinned copper drain wire.
6. NFPA 70 Type: Type CM.

7. Flame Resistance: Comply with UL 1581.

C. Plenum-Type, TIA 232-F:

1. Three or Nine, No. 22 AWG, stranded (7x30) tinned copper conductors.
2. PE insulation.
3. Aluminum foil-polyester tape shield with 100 percent shield coverage.
4. Fluorinated ethylene propylene jacket.
5. Conductors are cabled on common axis with No. 24 AWG, stranded (7x32) tinned copper drain wire.
6. Flame Resistance: Comply with NFPA 262.

2.8 RS-485 CABLE

A. Standard Cable: NFPA 70, Type CMG.

1. Paired, twisted, No. 22 AWG, stranded (7x30) tinned-copper conductors.
2. PVC insulation.
3. Unshielded.
4. PVC jacket.
5. Flame Resistance: Comply with UL 1685.

B. Plenum-Rated Cable: NFPA 70, Type CMP.

1. Paired, No. 22 AWG, stranded (7x30) tinned-copper conductors.
2. Fluorinated ethylene propylene insulation.
3. Unshielded.
4. Fluorinated ethylene propylene jacket.
5. Flame Resistance: NFPA 262.

2.9 CONTROL CABLE

A. Plenum-Rated, Paired Cable: NFPA 70, Type CMP.

1. One or Multi-pair, twisted, No. 18 AWG, stranded (19x30) tinned-copper conductors.
2. PVC insulation.
3. Unshielded.
4. PVC jacket.
5. Flame Resistance: Comply with NFPA 262.

2.10 CONTROL-CIRCUIT CONDUCTORS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Encore Wire Corporation.
2. General Cable; Prysmian Group North America.

3. [Service Wire Co.](#)
4. [Southwire Company, LLC.](#)

2.11 SOURCE QUALITY CONTROL

- A. Factory test twisted pair cables according to TIA-568-C.2.
- B. Cable will be considered defective if it does not pass tests and inspections.
- C. Prepare test and inspection reports.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Test cables on receipt at Projects site.
 1. Test each pair of twisted pair cable for open and short circuits.

3.2 INSTALLATION OF RACEWAYS AND BOXES

- A. Comply with requirements in Section 260533.13 "Conduits for Electrical Systems" for raceway selection and installation requirements for conduits as supplemented or modified in this Section.
- B. Comply with requirements in Section 260533.23 "Surface Raceways for Electrical Systems" for raceway selection and installation requirements for wireways as supplemented or modified in this Section.
- C. Comply with requirements in Section 260533.16 "Boxes and Covers for Electrical Systems" for raceway selection and installation requirements for boxes as supplemented or modified in this Section.
 1. Outlet boxes must be no smaller than 2 inch wide, 3 inch high, and 2-1/2 inch deep.
 2. Flexible metal conduit must not be used.
- D. Comply with TIA-569-D for pull-box sizing and length of conduit and number of bends between pull points.
- E. Install manufactured conduit sweeps and long-radius elbows if possible.
- F. Raceway Installation in Equipment Rooms:
 1. Position conduit ends adjacent to a corner on backboard if a single piece of plywood is installed, or in the corner of the room if multiple sheets of plywood are installed around perimeter walls of the room.
 2. Install cable trays to route cables if conduits cannot be located in these positions.
 3. Secure conduits to backboard if entering the room from overhead.
 4. Extend conduits 3 inch above finished floor.

5. Install metal conduits with grounding bushings and connect with grounding conductor to grounding system.
- G. Backboards: Install backboards with 96 inch dimension vertical. Butt adjacent sheets tightly and form smooth gap-free corners and joints.

3.3 INSTALLATION OF CONDUCTORS AND CABLES

- A. Comply with NECA 1.
- B. General Requirements for Cabling:
 1. Comply with TIA-568-C Series of standards.
 2. Comply with BICSI ITSIMM, Ch. 5, "Copper Structured Cabling Systems."
 3. Terminate all conductors; cable must not contain unterminated elements. Make terminations only at indicated outlets, terminals, and cross-connect and patch panels.
 4. Cables may not be spliced and must be continuous from terminal to terminal. Do not splice cable between termination, tap, or junction points.
 5. Cables serving a common system may be grouped in a common raceway. Install network cabling and control wiring and cable in separate raceway from power wiring. Do not group conductors from different systems or different voltages.
 6. Secure and support cables at intervals not exceeding 30 inch and not more than 6 inch from cabinets, boxes, fittings, outlets, racks, frames, and terminals.
 7. Bundle, lace, and train conductors to terminal points without exceeding manufacturer's limitations on bending radii, but not less than radii specified in BICSI ITSIMM, Ch. 5, "Copper Structured Cabling Systems." Install lacing bars and distribution spools.
 8. Do not install bruised, kinked, scored, deformed, or abraded cable. Remove and discard cable if damaged during installation and replace it with new cable.
 9. Cold-Weather Installation: Bring cable to room temperature before dereeling. Do not use heat lamps for heating.
 10. Pulling Cable: Comply with BICSI ITSIMM, Ch. 5, "Copper Structured Cabling Systems." Monitor cable pull tensions.
 11. Support: Do not allow cables to lie on removable ceiling tiles.
 12. Secure: Fasten securely in place with hardware specifically designed and installed so as to not damage cables.
 13. Provide strain relief.
 14. Keep runs short. Allow extra length for connecting to terminals. Do not bend cables in a radius less than 10 times the cable OD. Use sleeves or grommets to protect cables from vibration at points where they pass around sharp corners and through penetrations.
 15. Ground wire must be copper, and grounding methods must comply with IEEE C2. Demonstrate ground resistance.
- C. Balanced Twisted Pair Cable Installation:
 1. Comply with TIA-568-C.2.
 2. Install termination hardware as specified in Section 271513 "Communications Copper Horizontal Cabling" unless otherwise indicated.
 3. Do not untwist balanced twisted pair cables more than 1/2 inch at the point of termination to maintain cable geometry.

D. Installation of Control-Circuit Conductors:

1. Install wiring in raceways.
2. Use insulated spade lugs for wire and cable connection to screw terminals.

E. Open-Cable Installation:

1. Install cabling with horizontal and vertical cable guides in telecommunications spaces with terminating hardware and interconnection equipment.
2. Suspend copper cable not in a wireway or pathway a minimum of 8 inch above ceilings by cable supports not more than 30 inch apart.
3. Cable must not be run through or on structural members or in contact with pipes, ducts, or other potentially damaging items. Do not run cables between structural members and corrugated panels.

F. Installation of Cable Routed Exposed under Raised Floors:

1. Install plenum-rated cable only.
2. Install cabling after the flooring system has been installed in raised floor areas.
3. Below each feed point, neatly coil a minimum of 72 inch of cable in a coil not less than 12 inch in diameter.

G. Separation from EMI Sources:

1. Comply with BICSI TDMM and TIA-569-D recommendations for separating unshielded copper voice and data communications cable from potential EMI sources including electrical power lines and equipment.
2. Separation between open communications cables or cables in nonmetallic raceways and unshielded power conductors and electrical equipment must be as follows:
 - a. Electrical Equipment or Circuit Rating Less Than 2 kVA: A minimum of 5 inch.
 - b. Electrical Equipment or Circuit Rating between 2 and 5 kVA: A minimum of 12 inch.
 - c. Electrical Equipment or Circuit Rating More Than 5 kVA: A minimum of 24 inch.
3. Separation between communications cables in grounded metallic raceways and unshielded power lines or electrical equipment must be as follows:
 - a. Electrical Equipment or Circuit Rating Less Than 2 kVA: A minimum of 2-1/2 inch.
 - b. Electrical Equipment or Circuit Rating between 2 and 5 kVA: A minimum of 6 inch.
 - c. Electrical Equipment or Circuit Rating More Than 5 kVA: A minimum of 12 inch.
4. Separation between communications cables in grounded metallic raceways and power lines and electrical equipment located in grounded metallic conduits or enclosures must be as follows:
 - a. Electrical Equipment or Circuit Rating Less Than 2 kVA: No requirement.
 - b. Electrical Equipment or Circuit Rating between 2 and 5 kVA: A minimum of 3 inch.

- c. Electrical Equipment or Circuit Rating More Than 5 kVA: A minimum of 6 inch.
- 5. Separation between Communications Cables and Electrical Motors and Transformers, 5 kVA or 5 HP and Larger: A minimum of 48 inch.
- 6. Separation between Communications Cables and Fluorescent Fixtures: A minimum of 5 inch.

3.4 REMOVAL OF CONDUCTORS AND CABLES

- A. Remove abandoned conductors and cables. Abandoned conductors and cables are those installed that are not terminated at equipment and are not identified with a tag for future use.

3.5 CONTROL-CIRCUIT CONDUCTORS

- A. Minimum Conductor Sizes:
 - 1. Class 1 remote-control and signal circuits; No 14 AWG.
 - 2. Class 2 low-energy, remote-control, and signal circuits; No. 16 AWG.
 - 3. Class 3 low-energy, remote-control, alarm, and signal circuits; No 12 AWG.

3.6 FIRESTOPPING

- A. Comply with requirements in Section 078413 "Penetration Firestopping."
- B. Comply with TIA-569-D, Annex A, "Firestopping."
- C. Comply with BICSI TDMM, "Firestopping" Chapter.

3.7 GROUNDING

- A. For data communication wiring, comply with TIA-607-B and with BICSI TDMM, "Bonding and Grounding (Earthing)" Chapter.
- B. For control-voltage wiring and cabling, comply with requirements in Section 260526 "Grounding and Bonding for Electrical Systems."

3.8 IDENTIFICATION

- A. Comply with requirements for identification specified in Section 260553 "Identification for Electrical Systems."
- B. Identify data and communications system components, wiring, and cabling according to TIA-606-B; label printers must use label stocks, laminating adhesives, and inks complying with UL 969.
- C. Identify each wire on each end and at each terminal with a number-coded identification tag. Each wire must have a unique tag.

3.9 FIELD QUALITY CONTROL

A. Tests and Inspections:

1. Visually inspect cable jacket materials for UL or third-party certification markings. Inspect cabling terminations to confirm color-coding for pin assignments, and inspect cabling connections to confirm compliance with TIA-568-C.1.
2. Visually inspect cable placement, cable termination, grounding and bonding, equipment and patch cords, and labeling of all components.
3. Test cabling for direct-current loop resistance, shorts, opens, intermittent faults, and polarity between conductors. Test operation of shorting bars in connection blocks. Test cables after termination, but not after cross-connection.
 - a. Test instruments must meet or exceed applicable requirements in TIA-568-C.2. Perform tests with a tester that complies with performance requirements in its "Test Instruments (Normative)" Annex, complying with measurement accuracy specified in its "Measurement Accuracy (Informative)" Annex. Use only test cords and adapters that are qualified by test equipment manufacturer for channel or link test configuration.

- B. Document data for each measurement. Print data for submittals in a summary report that is formatted using Table 10.1 in BICSI TDMM as a guide, or transfer the data from the instrument to the computer, save as text files, print, and submit.
- C. End-to-end cabling will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports.

END OF SECTION 260523

SECTION 260526 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Grounding and bonding conductors.
2. Grounding and bonding clamps.
3. Grounding and bonding bushings.
4. Grounding and bonding hubs.
5. Grounding and bonding connectors.
6. Intersystem bonding bridge grounding connector.
7. Grounding and bonding busbars.
8. Signal reference grids.
9. Grounding (earthing) electrodes.
10. Grounding electrode enclosures.

B. Related Requirements:

1. Section 260010 "Supplemental Requirements for Electrical" specifies additional abbreviations, definitions, submittals, qualifications, testing agencies, and other Project requirements applicable to Work specified in this Section.
2. Section 260011 "Facility Performance Requirements for Electrical" specifies seismic-load, wind-load, acoustical, and other field conditions applicable to Work specified in this Section.
3. Section 264113 "Lightning Protection for Structures" specifies bonding of lightning protection grounding electrodes to facility grounding electrodes.
4. Section 270528 "Pathways for Communications Systems" specifies additional requirements for grounding and bonding of communications raceways, boxes, and cable trays.
5. Section 271100 "Communications Equipment Room Fittings" specifies additional requirements for grounding and bonding of communications equipment.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: Plans showing dimensioned locations of grounding features described in "Field Quality Control for Grounding and Bonding of Electrical Power" Article, including the following:

1. Grounding electrode access enclosures.
2. Grounding electrodes.

3. Grounding arrangements and connections for separately derived systems.

- C. Field quality-control reports.

1.3 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data:

1. In addition to items specified in Section 260010 "Supplemental Requirements for Electrical," include the following:
 - a. Plans showing locations of grounding features described in "Field Quality Control for Grounding and Bonding of Electrical Power" Article, including the following:
 - 1) Grounding electrode access enclosures.
 - 2) Grounding electrodes.
 - 3) Grounding arrangements and connections for separately derived systems.

PART 2 - PRODUCTS

2.1 GROUNDING AND BONDING CONDUCTORS

- A. Equipment Grounding Conductor:

1. General Characteristics: 600 V, THHN/THWN-2 or THWN-2, copper or tinned-copper wire or cable, green color, in accordance with Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

- B. Isolated Equipment Grounding Conductor:

1. General Characteristics: 600 V, THHN/THWN-2 or THWN-2, copper or tinned-copper wire or cable, green color with one or more yellow stripes, in accordance with Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

- C. ASTM - Bare Copper Grounding and Bonding Conductor:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. ERICO; brand of nVent Electrical plc.
 - b. Harger Lightning & Grounding; business of Harger, Inc.
2. Referenced Standards: Complying with one or more of the following:

- a. Soft or Annealed Copper Wire: ASTM B3.
- b. Concentric-Lay Stranded Copper Conductor: ASTM B8.
- c. Tin-Coated Soft or Annealed Copper Wire: ASTM B33.
- d. 19-Wire Combination Unilay-Stranded Copper Conductor: ASTM B787/B787M.

D. UL KDER - Armored Grounding Wire:

1. Description: Single corrosion-resistant copper, aluminum, or copper-clad aluminum conductor within helically formed steel armor.
2. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. LS Cable & System USA; subsidiary of LS Corp.
 - b. Southwire Company, LLC.
 - c. Superior Essex Inc.; subsidiary of LS Corp.
 - d. Viakon; brand of Conductores Monterrey S.A. de C.V.; a subsidiary of Xignux.
3. Regulatory Requirements:
 - a. Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
4. Listing Criteria:
 - a. Grounding and Bonding Equipment: UL CCN KDER; including UL 467.

E. UL KDSH - Protector Grounding Conductor:

1. Description: Conductors intended to be used for grounding primary protector or metallic members of cable sheath in accordance with Chapters 7 and 8 of NFPA 70.
2. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Superior Essex Inc.; subsidiary of LS Corp.
3. Regulatory Requirements:
 - a. Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
4. Listing Criteria:

- a. Grounding and Bonding Equipment for Communications: UL CCN KDSH; including UL 467.
- 5. Options:
 - a. Color: green.

2.2 GROUNDING AND BONDING CLAMPS

- A. Description: Clamps suitable for attachment of grounding and bonding conductors to grounding electrodes, pipes, tubing, and rebar. Grounding and bonding clamps specified in this article are also suitable for use with communications applications.
- B. Source Limitations: Obtain products from single manufacturer.
- C. Performance Criteria:
 - 1. Regulatory Requirements:
 - a. Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
 - 2. Listing Criteria:
 - a. Grounding and Bonding Equipment: UL CCN KDER; including UL 467.
 - b. Grounding and Bonding Equipment for Communications: UL CCN KDSH; including UL 467.

2.3 GROUNDING AND BONDING BUSHINGS

- A. Description: Bonding bushings connect conduit fittings, tubing fittings, threaded metal conduit, and unthreaded metal conduit to metal boxes and equipment enclosures, and have one or more bonding screws intended to provide electrical continuity between bushing and enclosure. Grounding bushings have provision for connection of bonding or grounding conductor and may or may not also have bonding screws.
- B. Source Limitations: Obtain products from single manufacturer.
- C. Performance Criteria:
 - 1. Regulatory Requirements:
 - a. Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.

2. Listing Criteria:

- a. Grounding and Bonding Equipment: UL CCN KDER; including UL 467.

2.4 GROUNDING AND BONDING HUBS

A. Description: Hubs with certified grounding or bonding locknut.

B. Source Limitations: Obtain products from single manufacturer.

C. Performance Criteria:

1. Regulatory Requirements:

- a. Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.

2. Listing Criteria:

- a. Grounding and Bonding Equipment: UL CCN KDER; including UL 467.

D. UL KDER - Grounding and Bonding Hub:

- 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- a. ABB, Electrification Business.
- b. Arlington Industries, Inc.
- c. Burndy; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
- d. Crouse-Hinds; brand of Eaton, Electrical Sector.
- e. Greaves Corp.; Essex Products Group, Inc.
- f. O-Z/Gedney; brand of Emerson Electric Co., Automation Solutions, Appleton Group.
- g. Penn-Union Corp.; subsidiary of Nesco, Inc.

- 2. General Characteristics: Insulated, gasketed, watertight hub with mechanical-type wire terminal.

2.5 GROUNDING AND BONDING CONNECTORS

A. Source Limitations: Obtain products from single manufacturer.

B. Performance Criteria:

1. Regulatory Requirements:

- a. Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
- 2. Listing Criteria:
 - a. Grounding and Bonding Equipment: UL CCN KDER; including UL 467.
 - b. Grounding and Bonding Equipment for Communications: UL CCN KDSH; including UL 467.

2.6 INTERSYSTEM BONDING BRIDGE GROUNDING CONNECTORS

- A. Description: Devices that provide means for connecting communications systems grounding and bonding conductors at service equipment or at disconnecting means for buildings or structures.
- B. Performance Criteria:
 - 1. Regulatory Requirements:
 - a. Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
 - 2. Listing Criteria:
 - a. Grounding and Bonding Equipment for Communications: UL CCN KDSH; including UL 467.
- C. UL KDSH - One-Piece Intersystem Bonding Bridge Grounding Connector:
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Galvan Industries, Inc.; Electrical Products Division, LLC.
 - b. Madison Electric Products; business of Southwire Company, LLC.
 - 2. General Characteristics: Zinc-alloy one-piece construction; six terminating points; gangable.
- D. UL KDSH - Two-Piece Intersystem Bonding Bridge Grounding Connector:
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Burndy; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - b. Crouse-Hinds; brand of Eaton, Electrical Sector.
 - c. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.

2. General Characteristics: Zinc-alloy body and polycarbonate cover; four terminating points.

2.7 GROUNDING AND BONDING BUSBARS

- A. Description: Miscellaneous grounding and bonding devices that serve as common connection for multiple grounding and bonding conductors.
- B. Source Limitations: Obtain products from single manufacturer.
- C. Performance Criteria:
 1. Regulatory Requirements:
 - a. Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
 2. Listing Criteria:
 - a. Grounding and Bonding Equipment: UL CCN KDER; including UL 467.

2.8 GROUNDING (EARTHING) ELECTRODES

- A. Source Limitations: Obtain products from single manufacturer.
- B. Performance Criteria:
 1. Regulatory Requirements:
 - a. Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
 2. Listing Criteria:
 - a. Grounding and Bonding Equipment: UL CCN KDER; including UL 467.

2.9 SELECTION OF GROUNDING AND BONDING PRODUCTS

- A. Grounding and Bonding Conductors:

1. Provide solid conductor for 8 AWG and smaller, and stranded conductors for 6 AWG and larger unless otherwise indicated.
2. Custom-Length Insulated Equipment Bonding Jumpers: 6 AWG, 19-strand, Type THHN.
3. Bonding Cable: 28 kcmil, 14 strands of 17 AWG conductor, 1/4 inch (6 mm) in diameter.
4. Bonding Conductor: 4 AWG or 6 AWG, stranded conductor.
5. Bonding Jumper: Copper tape, braided conductors terminated with copper ferrules; 1-5/8 inch (41 mm) wide and 1/16 inch (1.6 mm) thick.
6. Tinned Bonding Jumper: Tinned-copper tape, braided conductors terminated with copper ferrules; 1-5/8 inch (41 mm) wide and 1/16 inch (1.6 mm) thick.
7. Underground Grounding Conductors: Install bare tinned-copper conductor, 2/0 AWG minimum.

B. Grounding and Bonding Connectors:

1. Pipe and Equipment Grounding Conductor Terminations: Bolted connectors.
2. Underground Connections: Welded connectors except at test wells and as otherwise indicated.
3. Connections to Ground Rods at Test Wells: Bolted connectors.
4. Connections to Structural Steel: Welded connectors.

C. Grounding and Bonding Busbars: Provide in electrical equipment rooms, in rooms housing service equipment, and elsewhere as indicated on Drawings.

2.10 INSTALLATION OF GROUNDING AND BONDING

A. Comply with manufacturer's published instructions.

B. Reference Standards:

1. Ground Bonding Common with Lightning Protection System: Comply with NFPA 780 and UL 96 when interconnecting with lightning protection system. Bond electrical power system ground directly to lightning protection system grounding conductor at closest point to electrical service grounding electrode. Use bonding conductor sized same as system grounding electrode conductor, and install in conduit.
2. Consult Architect for resolution of conflicting requirements.

C. Special Techniques:

1. Grounding and Bonding Conductors:
 - a. Route along shortest and straightest paths possible unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.
2. Grounding and Bonding Connectors: Make connections so possibility of galvanic action or electrolysis is minimized. Select connectors, connection hardware, conductors, and connection methods so metals in direct contact are galvanically compatible.

- a. Use electroplated or hot-tin-coated materials to ensure high conductivity and to make contact points closer in order of galvanic series.
 - b. Make connections with clean, bare metal at points of contact.
 - c. Make aluminum-to-steel connections with stainless steel separators and mechanical clamps.
 - d. Make aluminum-to-galvanized-steel connections with tin-plated copper jumpers and mechanical clamps.
 - e. Coat and seal connections having dissimilar metals with inert material to prevent future penetration of moisture to contact surfaces.
 - f. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance except where routed through short lengths of conduit.
 - 1) Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate adjacent parts.
 - 2) Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install bonding so vibration is not transmitted to rigidly mounted equipment.
 - 3) Use exothermic-welded connectors for outdoor locations; if disconnect-type connection is required, use bolted clamp.
 - g. Grounding and Bonding for Piping:
 - 1) Metal Water Service Pipe: Install insulated copper grounding conductors, in conduit, from building's main service equipment, or grounding bus, to main metal water service entrances to building. Connect grounding conductors to main metal water service pipes; use bolted clamp connector or bolt lug-type connector to pipe flange by using one of lug bolts of flange. Where dielectric main water fitting is installed, connect grounding conductor on street side of fitting. Bond metal grounding conductor conduit or sleeve to conductor at each end.
 - 2) Water Meter Piping: Use braided-type bonding jumpers to electrically bypass water meters. Connect to pipe with bolted connector.
 - 3) Bond each aboveground portion of gas piping system downstream from equipment shutoff valve.
 - h. Bonding Interior Metal Ducts: Bond metal air ducts to equipment grounding conductors of associated fans, blowers, electric heaters, and air cleaners. Install tinned bonding jumper to bond across flexible duct connections to achieve continuity.
 - i. Grounding for Steel Building Structure: Install driven ground rod at base of each corner column and at intermediate exterior columns at distances not more than 60 ft (18 m) apart.
3. Grounding and Bonding Busbars:
- a. Install busbar horizontally, on insulated spacers 2 inch (50 mm) minimum from wall, 6 inch (150 mm) above finished floor unless otherwise indicated.

- b. Where busbars are indicated on both sides of doorways, route bonding conductor up to top of door frame, across top of doorway, and down; connect to continuation of horizontal busbar.
- 4. Equipment Grounding and Bonding:
 - a. Install insulated equipment grounding conductors with feeders and branch circuits.
 - b. Install insulated equipment grounding conductors with the following items, in addition to those required by NFPA 70:
 - 1) Feeders and branch circuits.
 - 2) Lighting circuits.
 - 3) Receptacle circuits.
 - 4) Single-phase motor and appliance branch circuits.
 - 5) Three-phase motor and appliance branch circuits.
 - 6) Flexible raceway runs.
 - 7) Armored and metal-clad cable runs.
 - 8) Busway Supply Circuits: Install insulated equipment grounding conductor from grounding bus in switchgear, switchboard, or distribution panel to equipment grounding bar terminal on busway.
 - c. Air-Duct Equipment Circuits: Install insulated equipment grounding conductor to duct-mounted electrical devices operating at 120 V and more, including air cleaners, heaters, dampers, humidifiers, and other duct electrical equipment. Bond conductor to each unit and to air duct and connected metallic piping.
 - d. Water Heater, Heat-Tracing, and Antifrost Heating Cables: Install separate insulated equipment grounding conductor to each electric water heater and heat-tracing cable. Bond conductor to heater units, piping, connected equipment, and components.
 - e. Isolated Grounding Receptacle Circuits: Install insulated equipment grounding conductor connected to receptacle grounding terminal. Isolate conductor from raceway and from panelboard grounding terminals. Terminate at equipment grounding conductor terminal of applicable derived system or service unless otherwise indicated.
 - f. Isolated Equipment Enclosure Circuits: For designated equipment supplied by branch circuit or feeder, isolate equipment enclosure from supply circuit raceway with nonmetallic raceway fitting listed for the purpose. Install fitting where raceway enters enclosure, and install separate insulated equipment grounding conductor. Isolate conductor from raceway and from panelboard grounding terminals. Terminate at equipment grounding conductor terminal of applicable derived system or service unless otherwise indicated.
 - g. Poles Supporting Outdoor Lighting Fixtures: Bond insulated equipment grounding conductor to equipment grounding terminal inside pole base.

2.11 PROTECTION

- A. After installation, protect grounding and bonding cables and equipment from construction activities. Remove and replace items that are contaminated, defaced, damaged, or otherwise caused to be unfit for use prior to acceptance by Owner.

END OF SECTION 260526

SECTION 260529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Support, anchorage, and attachment components.
2. Fabricated metal equipment support assemblies.

B. Related Requirements:

1. Section 260010 "Supplemental Requirements for Electrical" for additional abbreviations, definitions, submittals, qualifications, testing agencies, and other Project requirements applicable to Work specified in this Section.
2. Section 260011 "Facility Performance Requirements for Electrical" for seismic-load, wind-load, acoustical, and other field conditions applicable to Work specified in this Section.

1.2 ACTION SUBMITTALS

A. Product Data:

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for the following:
 - a. Slotted support systems, hardware, and accessories.
 - b. Clamps.
 - c. Hangers.
 - d. Sockets.
 - e. Eye nuts.
 - f. Fasteners.
 - g. Anchors.
 - h. Saddles.
 - i. Brackets.
2. Include rated capacities and furnished specialties and accessories.

B. Shop Drawings: For fabrication and installation details for electrical hangers and support systems.

1. Hangers. Include product data for components.
2. Slotted support systems.
3. Equipment supports.

4. Vibration Isolation Base Details: Detail fabrication including anchorages and attachments to structure and to supported equipment. Include adjustable motor bases, rails, and frames for equipment mounting.
 - C. Delegated Design Submittals: For hangers and supports for electrical systems.
 1. Include design calculations and details of hangers.
 2. Include design calculations for seismic restraints.
- 1.3 INFORMATIONAL SUBMITTALS
- A. Welding certificates.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified structural professional engineer to design hanger and support system.
- B. Surface-Burning Characteristics: Comply with ASTM E84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 1. Flame Rating: Class 1.
 2. Self-extinguishing according to ASTM D635.

2.2 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

- A. Steel Slotted Support Systems: Preformed steel channels and angles with minimum 13/32 inch diameter holes at a maximum of 8 inch on center in at least one surface.
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. ABB, Electrification Business.
 - b. Allied Tube & Conduit; Atkore International.
 - c. Atkore Unistrut.
 - d. Cooper B-line; brand of Eaton, Electrical Sector.
 - e. G-Strut.
 - f. Gripple Inc.
 2. Standard: Comply with MFMA-4 factory-fabricated components for field assembly.
 3. Material for Channel, Fittings, and Accessories: Galvanized steel.
 4. Channel Width: Selected for applicable load criteria.

5. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
 6. Nonmetallic Coatings: Manufacturer's standard PVC, polyurethane, or polyester coating applied according to MFMA-4.
 7. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-4.
 8. Protect finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Aluminum Slotted Support Systems: Extruded-aluminum channels and angles with minimum 13/32 inch diameter holes at a maximum of 8 inch on center in at least one surface.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. ABB, Electrification Business.
 - b. Atkore Unistrut.
 - c. Eaton.
 2. Standard: Comply with MFMA-4 factory-fabricated components for field assembly.
 3. Channel Material: 6063-T5 aluminum alloy.
 4. Fittings and Accessories Material: 5052-H32 aluminum alloy.
 5. Channel Width: Selected for applicable load criteria.
 6. Nonmetallic Coatings: Manufacturer's standard PVC, polyurethane, or polyester coating applied according to MFMA-4.
 7. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-4.
 8. Protect finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Conduit and Cable Support Devices: Steel hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.
- D. Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug or plugs for nonarmored electrical conductors or cables in riser conduits. Plugs must have number, size, and shape of conductor gripping pieces as required to suit individual conductors or cables supported. Body must be made of malleable iron.
- E. Structural Steel for Fabricated Supports and Restraints: ASTM A36/A36M steel plates, shapes, and bars; black and galvanized.
- F. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:
1. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated steel, for use in hardened portland cement concrete, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
 - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- 1) [Cooper B-line; brand of Eaton, Electrical Sector.](#)
- 2) [Empire Industries, Inc.](#)
- 3) [Hilti, Inc.](#)
- 4) [ITW Ramset/Red Head; Illinois Tool Works, Inc.](#)
- 5) [MKT Fastening, LLC.](#)

2. Concrete Inserts: Steel or malleable-iron, slotted support system units are similar to MSS Type 18 units and comply with MFMA-4 or MSSSP-58.
3. Clamps for Attachment to Steel Structural Elements: MSS SP-58 units are suitable for attached structural element.
4. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM F3125/F3125M, Grade A325.
5. Toggle Bolts: All steel springhead type.
6. Hanger Rods: Threaded steel.

2.3 FABRICATED METAL EQUIPMENT SUPPORT ASSEMBLIES

- A. Description: Welded or bolted structural-steel shapes, shop or field fabricated to fit dimensions of supported equipment.
- B. Materials: Comply with requirements in Section 055000 "Metal Fabrications" for steel shapes and plates.

PART 3 - EXECUTION

3.1 SELECTION

- A. Comply with the following standards for selection and installation of hangers and supports, except where requirements on Drawings or in this Section are stricter:
 1. NECA NEIS 101
 2. NECA NEIS 102.
 3. NECA NEIS 105.
 4. NECA NEIS 111.
- B. Comply with requirements in Section 078413 "Penetration Firestopping" for firestopping materials and installation for penetrations through fire-rated walls, ceilings, and assemblies.
- C. Comply with requirements for raceways specified in Section 260533.13 "Conduits for Electrical Systems."
- D. Comply with requirements for boxes specified in Section 260533.16 "Boxes and Covers for Electrical Systems."

- E. Maximum Support Spacing and Minimum Hanger Rod Size for Raceways: Space supports for EMT, IMC, and ERM as required by NFPA 70. Minimum rod size must be 1/4 inch in diameter.
- F. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted or other support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.
 - 1. Secure raceways and cables to these supports with two-bolt conduit clamps.
- G. Spring-steel clamps designed for supporting single conduits without bolts may be used for 1-1/2 inch and smaller raceways serving branch circuits and communication systems above suspended ceilings, and for fastening raceways to trapeze supports.

3.2 INSTALLATION OF SUPPORTS

- A. Comply with NECA NEIS 101 for installation requirements except as specified in this article.
- B. Raceway Support Methods: In addition to methods described in NECA NEIS 1, EMT IMC and ERM as required by NFPA 70.
- C. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination must be weight of supported components plus 200 lb.
- D. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:
 - 1. To Wood: Fasten with lag screws or through bolts.
 - 2. To New Concrete: Bolt to concrete inserts.
 - 3. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
 - 4. To Existing Concrete: Expansion anchor fasteners.
 - 5. Instead of expansion anchors, powder-actuated driven threaded studs provided with lock washers and nuts may be used in existing standard-weight concrete 4 inch thick or greater. Do not use for anchorage to lightweight-aggregate concrete or for slabs less than 4 inch thick.
 - 6. To Steel: Welded threaded studs complying with AWS D1.1/D1.1M, with lock washers and nuts or Beam clamps (MSS SP-58, Type 19, 21, 23, 25, or 27), complying with MSS SP-69.
 - 7. To Light Steel: Sheet metal screws.
 - 8. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate.

- E. Drill holes for expansion anchors in concrete at locations and to depths that avoid the need for reinforcing bars.

3.3 INSTALLATION OF FABRICATED METAL SUPPORTS

- A. Comply with installation requirements in Section 055000 "Metal Fabrications" for site-fabricated metal supports.
- B. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.
- C. Field Welding: Comply with AWS D1.1/D1.1M. Submit welding certificates.

3.4 CONCRETE BASES

- A. Construct concrete bases of dimensions indicated, but not less than 4 inch larger in both directions than supported unit, and so anchors will be a minimum of 10 bolt diameters from edge of the base.
- B. Use 3000 psi, 28-day compressive-strength concrete. Concrete materials, reinforcement, and placement requirements are specified in Section 033000 "Cast-in-Place Concrete."
- C. Anchor equipment to concrete base as follows:
 - 1. Place and secure anchorage devices. Use supported equipment manufacturer's setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - 2. Install anchor bolts to elevations required for proper attachment to supported equipment.
 - 3. Install anchor bolts according to anchor-bolt manufacturer's written instructions.

3.5 PAINTING

- A. Touchup:
 - 1. Clean field welds and abraded areas of shop paint. Paint exposed areas immediately after erecting hangers and supports. Use same materials as used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.
 - a. Apply paint by brush or spray to provide minimum dry film thickness of 2.0 mils.
- B. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A780.

END OF SECTION 260529

SECTION 260533.13 - CONDUITS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Type EMT-A and Type EMT-SS duct raceways and elbows.
2. Type EMT-S duct raceways and elbows.
3. Type ENT duct raceways and fittings.
4. Type HDPE and Type EPEC duct raceways and fittings.
5. Type ERMCA and Type ERMCSS duct raceways, elbows, couplings, and nipples.
6. Type ERMCS duct raceways, elbows, couplings, and nipples.
7. Type FMC-S and Type FMC-A duct raceways.
8. Type FMT duct raceways.
9. Type IMC duct raceways.
10. Type LFMC duct raceways.
11. Type LFNC duct raceways.
12. Type PVC duct raceways and fittings.
13. Type RTRC-AG duct raceways and fittings.
14. Type RTRC-BG duct raceways and fittings.
15. Fittings for conduit, tubing, and cable.
16. Electrically conductive corrosion-resistant compounds for threaded conduit.
17. Solvent cements.

B. Products Installed, but Not Furnished, under This Section:

1. See Section 260553 "Identification for Electrical Systems" for electrical equipment labels.

C. Related Requirements:

1. Section 260010 "Supplemental Requirements for Electrical" for additional abbreviations, definitions, submittals, qualifications, testing agencies, and other Project requirements applicable to Work specified in this Section.
2. Section 260011 "Facility Performance Requirements for Electrical" for seismic-load, wind-load, acoustical, and other field conditions applicable to Work specified in this Section.
3. Section 260519 "Low-Voltage for Electrical Power Conductors and Cables" for nonmetallic underground conduit with conductors (Type NUCC).
4. Section 260543 "Underground Ducts and Raceways for Electrical Systems" for exterior duct banks, manholes, and underground utility construction.

1.2 DEFINITIONS

- A. Conduit: A structure containing one or more duct raceways.
- B. Duct Raceway: A single enclosed raceway for conductors or cable.
- C. Duct Bank: An arrangement of conduit providing one or more continuous duct raceways between two points.

1.3 ACTION SUBMITTALS

A. Product Data:

- 1. Type EMT-A and Type EMT-SS duct raceways and elbows.
- 2. Type EMT-S duct raceways and elbows.
- 3. Type ENT duct raceways and fittings.
- 4. Type HDPE and Type EPEC duct raceways and fittings.
- 5. Type ERMC-A and Type ERMC-SS duct raceways, elbows, couplings, and nipples.
- 6. Type ERMC-S duct raceways, elbows, couplings, and nipples.
- 7. Type FMC-S and Type FMC-A duct raceways.
- 8. Type FMT duct raceways.
- 9. Type IMC duct raceways.
- 10. Type LFMC duct raceways.
- 11. Type LFNC duct raceways.
- 12. Type PVC duct raceways and fittings.
- 13. Type RTRC-AG duct raceways and fittings.
- 14. Type RTRC-BG duct raceways and fittings.
- 15. Fittings for conduit, tubing, and cable.
- 16. Electrically conductive corrosion-resistant compounds for threaded conduit.
- 17. Solvent cements.

B. Sustainable design submittals.

- 1. Solvent cements.

1.4 INFORMATIONAL SUBMITTALS

A. Manufacturers' Published Instructions:

- 1. Type EMT-A and Type EMT-SS duct raceways and elbows.
- 2. Type EMT-S duct raceways and elbows.
- 3. Type ENT duct raceways and fittings.
- 4. Type HDPE and Type EPEC duct raceways and fittings.
- 5. Type ERMC-A and Type ERMC-SS duct raceways, elbows, couplings, and nipples.
- 6. Type ERMC-S duct raceways, elbows, couplings, and nipples.
- 7. Type FMC-S and Type FMC-A duct raceways.

8. Type FMT duct raceways.
9. Type IMC duct raceways.
10. Type LFMC duct raceways.
11. Type LFNC duct raceways.
12. Type PVC duct raceways and fittings.
13. Type RTRC-AG duct raceways and fittings.
14. Type RTRC-BG duct raceways and fittings.
15. Fittings for conduit, tubing, and cable.
16. Electrically conductive corrosion-resistant compounds for threaded conduit.
17. Solvent cements.

PART 2 - PRODUCTS

2.1 TYPE EMT-A AND TYPE EMT-SS DUCT RACEWAYS AND ELBOWS

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
2. Listing Criteria: UL CCN FJMX; including UL 797A.

B. Source Quality Control:

1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.

C. UL FJMX - Aluminum Electrical Metal Tubing (EMT-A) and Elbows:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. American Conduit; Norsk Hydro ASA, Hydro Extrusion USA LLC.
 - b. Patriot Aluminum Products, LLC.
 - c. Penn Aluminum Conduit & EMT; Penn Aluminum International LLC; Berkshire Hathaway.
2. Material: Aluminum.
3. Options:
 - a. Minimum Trade Size: Metric designator 16 (trade size 1/2).
 - b. Colors: As indicated on Drawings.

D. UL FJMX - Stainless Steel Electrical Metal Tubing (EMT-SS) and Elbows:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Calconduit; Atkore International.
 - b. Rymco USA brand; manufactured and listed by subsidiary Conduit S.A. de C.V.
2. Material: Stainless steel.
3. Options:
 - a. Minimum Trade Size: Metric designator 16 (trade size 1/2).
 - b. Colors: As indicated on Drawings.

2.2 TYPE EMT-S DUCT RACEWAYS AND ELBOWS

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
2. Listing Criteria: UL CCN FJMX; including UL 797.

B. Source Quality Control:

1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.

C. UL FJMX - Steel Electrical Metal Tubing (EMT-S) and Elbows:

1. <Double click here to find, evaluate, and insert list of manufacturers and products.>
2. Material: Steel.
3. Options:
 - a. Exterior Coating: Zinc.
 - b. Interior Coating: Zinc with organic top coating.
 - c. Minimum Trade Size: Metric designator 16 (trade size 1/2).
 - d. Colors: As indicated on Drawings.

2.3 TYPE ENT DUCT RACEWAYS AND FITTINGS

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
 2. Listing Criteria: UL CCN FKHU; including UL 1653.
- B. Source Quality Control:
1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
 2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.
- 2.4 TYPE ERM-C-A AND TYPE ERM-C-SS DUCT RACEWAYS, ELBOWS, COUPLINGS, AND NIPPLES
- A. Performance Criteria:
1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
 2. Listing Criteria: UL CCN DYWV; including UL 6A.
- B. Source Quality Control:
1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
 2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.
- C. UL DYWV - Aluminum Electrical Rigid Metal Conduit (ERM-C-A), Elbows, Couplings, and Nipples:
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. ABB, Electrification Business.
 - b. Allied Tube & Conduit; Atkore International.
 - c. American Conduit; Norsk Hydro ASA, Hydro Extrusion USA LLC.
 - d. Appleton; Emerson Electric Co., Automation Solutions.
 - e. Calconduit; Atkore International.
 - f. Crouse-Hinds; brand of Eaton, Electrical Sector.
 - g. Killark; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - h. Patriot Aluminum Products, LLC.
 - i. Penn Aluminum Conduit & EMT; Penn Aluminum International LLC; Berkshire Hathaway.
 - j. Republic Conduit; Nucor Corporation, Nucor Tubular Products.
 - k. Rymco USA brand; manufactured and listed by subsidiary Conduit S.A. de C.V.
 - l. Topaz Lighting & Electric.
 - m. Western Tube; Zekelman Industries.

- n. Wheatland Tube; Zekelman Industries.
 - 2. Material: Aluminum.
 - 3. Options:
 - a. Protective Coating: Provide protective coating for use in severely corrosive environment.
 - b. Minimum Trade Size: Metric designator 16 (trade size 1/2).
 - c. Colors: As indicated on Drawings.
- D. UL DXHR - Steel Liquidtight Flexible Metal Conduit (LFMC-S):
- 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. ABB, Electrification Business.
 - b. Anaconda Sealtite; Anamet Electrical, Inc.
 - c. Electri-Flex Company.
 - d. International Metal Hose Co.
 - 2. Material: Steel.
 - 3. Options:
 - a. Minimum Trade Size: Metric designator 16 (trade size 1/2).
 - b. Colors: As indicated on Drawings.
- E. UL DXHR - Stainless Steel Liquidtight Flexible Metal Conduit (LFMC-SS):
- 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. ABB, Electrification Business.
 - b. Anaconda Sealtite; Anamet Electrical, Inc.
 - c. Electri-Flex Company.
 - 2. Material: Stainless steel.
 - 3. Options:
 - a. Minimum Trade Size: Metric designator 16 (trade size 1/2).
 - b. Colors: As indicated on Drawings.

2.5 TYPE LFNC DUCT RACEWAYS

- A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
 2. Listing Criteria: UL CCN DXOQ; including UL 1660.
- B. Source Quality Control:
1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
 2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.
- C. UL DXOQ - Layered (Type A) Liquidtight Flexible Nonmetallic Conduit (LFNC-A):
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. AFC Cable Systems; Atkore International.
 - b. Electri-Flex Company.
 - c. Topaz Lighting & Electric.
 2. Additional Criteria: Type A conduit with smooth seamless inner core and cover bonded together with one or more reinforcement layers between core and cover.
 3. Options:
 - a. Minimum Trade Size: Metric designator 16 (trade size 1/2).
- D. UL DXOQ - Integral (Type B) Liquidtight Flexible Nonmetallic Conduit (LFNC-B):
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. ABB, Electrification Business.
 - b. Cambridge Resources.
 - c. Electri-Flex Company.
 - d. Superflex Ltd.
 - e. Topaz Lighting & Electric.
 2. Additional Criteria: Type B conduit with smooth inner surface with integral reinforcement within conduit wall.
 3. Options:
 - a. Minimum Trade Size: Metric designator 16 (trade size 1/2).

4. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. ABB, Electrification Business.
 - b. HellermannTyton.
5. Additional Criteria: Type C conduit with corrugated internal and external surfaces without integral reinforcement within conduit wall.
6. Options:
 - a. Minimum Trade Size: Metric designator 16 (trade size 1/2).

2.6 FITTINGS FOR CONDUIT, TUBING, AND CABLE

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.

B. Source Quality Control:

1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.

C. UL FKA V - Fittings for Type EMT Duct Raceways:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. ABB, Electrification Business.
 - b. Allied Tube & Conduit; Atkore International.
 - c. Appleton; Emerson Electric Co., Automation Solutions.
 - d. Calconduit; Atkore International.
 - e. Crouse-Hinds; brand of Eaton, Electrical Sector.
 - f. O-Z/Gedney; brand of Emerson Electric Co., Automation Solutions, Appleton Group.
 - g. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - h. Southwire Company, LLC.
 - i. Topaz Lighting & Electric.
2. Listing Criteria: UL CCN FKA V; including UL 514B.
3. Options:

- a. Material: Steel.
 - b. Coupling Method: Setscrew coupling. Setscrew couplings with only single screw per conduit are unacceptable.
 - c. Expansion and Deflection Fittings: UL 651 with flexible bonding jumper.
 - D. UL ILNR - Fittings for Type FMC Duct Raceways:
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. American Fittings Corp. (AMFICO).
 - b. Liquid Tight Connector Co.
 - c. Southwire Company, LLC.
 - 2. Listing Criteria: UL CCN ILNR; including UL 514B.
 - E. UL DXAS - Fittings for Type LFMC and Type LFNC Duct Raceways:
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Arlington Industries, Inc.
 - b. Liquid Tight Connector Co.
 - 2. Listing Criteria: UL CCN DXAS; including UL 514B.
- 2.7 ELECTRICALLY CONDUCTIVE CORROSION-RESISTANT COMPOUNDS FOR THREADED CONDUIT
- A. Performance Criteria:
 - 1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
 - 2. Listing Criteria: UL CCN FOIZ; including UL Subject 2419.
 - B. Source Quality Control:
 - 1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
 - 2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.
 - C. UL FOIZ - Electrically Conductive Corrosion-Resistant Compound for Threaded Conduit:
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. ABB, Electrification Business.

2.8 SOLVENT CEMENTS

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
2. Listing Criteria: UL CCN DWTT; including UL 514B.

B. Source Quality Control:

1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.

PART 3 - EXECUTION

3.1 SELECTION OF CONDUITS FOR ELECTRICAL SYSTEMS

- A. Unless more stringent requirements are specified in Contract Documents or manufacturers' published instructions, comply with NFPA 70 for selection of duct raceways. Consult Architect for resolution of conflicting requirements.

- B. Special Instructions Regarding HDPE Conduits: Although Article 353 of NFPA 70 permits use of HDPE conduits where encased in concrete aboveground, UL CCN EAZX listing requirements state that HDPE underground conduits are intended only for use where direct buried with or without being encased in concrete. Specified Type HDPE underground conduits are not permitted to be used aboveground on Project.

C. Outdoors:

1. Exposed and Subject to Severe Physical Damage: IMC.
2. Exposed and Subject to Physical Damage: IMC.
 - a. Locations less than 2.5 m (8 ft) above finished floor.
3. Exposed and Not Subject to Physical Damage: Corrosion-resistant EMT.
4. Concealed Aboveground: EMT.
5. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.

D. Indoors:

1. Hazardous Classified Locations: IMC.
 2. Exposed and Subject to Severe Physical Damage: IMC. Locations include the following:
 - a. Loading docks.
 - b. Corridors used for traffic of mechanized carts, forklifts, and pallet-handling units.
 - c. Mechanical rooms.
 - d. Gymnasiums.
 3. Exposed and Subject to Physical Damage: IMC. Locations include the following:
 - a. Locations less than 2.5 m (8 ft) above finished floor.
 - b. Stub-ups to above suspended ceilings.
 4. Exposed and Not Subject to Physical Damage: EMT.
 5. Concealed in Ceilings and Interior Walls and Partitions: EMT.
 6. Damp or Wet Locations: Corrosion-resistant EMT.
 7. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
- E. Comply with manufacturer's published instructions.
- F. Reference Standards for Installation: Unless more stringent installation requirements are specified in Contract Documents or manufacturers' published instructions, comply with the following:
1. Type EMT-A: Article 358 of NFPA 70 and NECA NEIS 102.
 2. Type EMT-SS: Article 358 of NFPA 70 and NECA NEIS 101.
 3. Type EMT-S: Article 358 of NFPA 70 and NECA NEIS 101.
 4. Type ENT: Article 362 of NFPA 70 and NECA NEIS 102.
 5. Type HDPE and Type EPEC: Article 353 of NFPA 70 and NECA NEIS 111.
 6. Type ERMCA: Article 344 of NFPA 70 and NECA NEIS 102.
 7. Type ERMSS: Article 344 of NFPA 70 and NECA NEIS 101.
 8. Type ERMCS: Article 344 of NFPA 70 and NECA NEIS 101.
 9. Type FMC-S: Article 348 of NFPA 70 and NECA NEIS 101.
 10. Type FMC-A: Article 348 of NFPA 70 and NECA NEIS 102.
 11. Type FMT: Article 360 of NFPA 70 and NECA NEIS 101.
 12. Type IMC: Article 342 of NFPA 70 and NECA NEIS 101.
 13. Type LFMC: Article 350 of NFPA 70 and NECA NEIS 101.
 14. Type LFNC: Article 342 of NFPA 70 and NECA NEIS 111.
 15. Type PVC: Article 356 of NFPA 70 and NECA NEIS 111.
 16. Type RTRC: Article 355 of NFPA 70 and NECA NEIS 111.
 17. Expansion Fittings: NEMA FB 2.40.
 18. Consult Architect for resolution of conflicting requirements.
- G. Special Installation Techniques:

1. General Requirements for Installation of Duct Raceways:

- a. Complete duct raceway installation before starting conductor installation.
- b. Provide stub-ups through floors with coupling threaded inside for plugs, set flush with finished floor. Plug coupling until conduit is extended above floor to final destination or a minimum of 2 ft (0.6 m) above finished floor.
- c. Install no more than equivalent of three 90-degree bends in conduit run. Support within 12 inch (300 mm) of changes in direction.
- d. Make bends in duct raceway using large-radius preformed ells except for parallel bends. Field bending must be in accordance with NFPA 70 minimum radii requirements. Provide only equipment specifically designed for material and size involved.
- e. Conceal conduit within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines.
- f. Support conduit within 12 inch (300 mm) of enclosures to which attached.
- g. Install duct sealing fittings at accessible locations in accordance with NFPA 70 and fill them with listed sealing compound. For concealed duct raceways, install fitting in flush steel box with blank cover plate having finish similar to that of adjacent plates or surfaces. Install duct sealing fittings in accordance with NFPA 70.
- h. Install devices to seal duct raceway interiors at accessible locations. Locate seals so no fittings or boxes are between the seal and the following changes of environments. Seal interior of duct raceways at the following points:
 - 1) Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
 - 2) Where an underground service duct raceway enters a building or structure.
 - 3) Conduit extending from interior to exterior of building.
 - 4) Conduit extending into pressurized duct raceway and equipment.
 - 5) Conduit extending into pressurized zones that are automatically controlled to maintain different pressure set points.
 - 6) Where otherwise required by NFPA 70.
- i. Do not install duct raceways or electrical items on "explosion-relief" walls or rotating equipment.
- j. Do not install conduits within 2 inch (50 mm) of the bottom side of a metal deck roof.
- k. Keep duct raceways at least 6 inch (150 mm) away from parallel runs of flues and steam or hot-water pipes. Install horizontal duct raceway runs above water and steam piping.
- l. Cut conduit perpendicular to the length. For conduits metric designator 53 (trade size 2) and larger, use roll cutter or a guide to make cut straight and perpendicular to the length. Ream inside of conduit to remove burrs.
- m. Install pull wires in empty duct raceways. Provide polypropylene or monofilament plastic line with not less than 200 lb (90 kg) tensile strength. Leave at least 12 inch (300 mm) of slack at both ends of pull wire. Cap underground duct raceways designated as spare above grade alongside duct raceways in use.

- n. Install duct raceways square to the enclosure and terminate at enclosures without hubs with locknuts on both sides of enclosure wall. Install locknuts hand tight, plus one-quarter turn more.
 - 1) Termination fittings with shoulders do not require two locknuts.
- o. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install bushings on conduits up to metric designator 35 (trade size 1-1/4) and insulated throat metal bushings on metric designator 41 (trade size 1-1/2) and larger conduits terminated with locknuts..
- 2. Types EMT-A, ERM-C-A, and FMC-A: Do not install aluminum duct raceways or fittings in contact with concrete or earth.
- 3. Types ERM-C and IMC:
 - a. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound that maintains electrical conductivity to threads of duct raceway and fittings before making up joints. Follow compound manufacturer's published instructions.
- 4. Type ERM-C-S-PVC:
 - a. Follow manufacturer's installation instructions for clamping, cutting, threading, bending, and assembly.
 - b. Provide PVC-coated sealing locknut for exposed male threads transitioning into female NPT threads that do not have sealing sleeves, including transitions from PVC couplings/female adapters to Type ERM-C-S-PVC elbows in direct-burial applications. PVC-coated sealing locknuts must not be used in place of conduit hub. PVC-coated sealing locknut must cover exposed threads on Type ERM-C-S-PVC duct raceway.
 - c. Coat field-cut threads on PVC-coated duct raceway with manufacturer-approved corrosion-preventing conductive compound prior to assembly.
- 5. Types FMC, LFM-C, and LFNC:
 - a. Provide a maximum of 36 inch (915 mm) of flexible conduit forequipment subject to vibration, noise transmission, or movement; and for transformers and motors.
- 6. Expansion-Joint Fittings:
 - a. Install in runs of aboveground PVC that are located where environmental temperature change may exceed 30 deg F (17 deg C) and that have straight-run length that exceeds 25 ft (7.6 m). Install in runs of aboveground ERM-C and EMT conduit that are located where environmental temperature change may exceed 100 deg F (55 deg C) and that have straight-run length that exceeds 100 ft (30 m).
 - b. Install type and quantity of fittings that accommodate temperature change listed for the following locations:

- 1) Outdoor Locations Not Exposed to Direct Sunlight: 125 deg F (70 deg C) temperature change.
 - 2) Outdoor Locations Exposed to Direct Sunlight: 155 deg F (86 deg C) temperature change.
 - 3) Indoor Spaces Connected with Outdoors without Physical Separation: 125 deg F (70 deg C) temperature change.
 - 4) Attics: 135 deg F (75 deg C) temperature change.
- c. Install fitting(s) that provide expansion and contraction for at least 0.00041 inch per foot of length of straight run per deg F (0.06 mm per meter of length of straight run per deg C) of temperature change for PVC conduits. Install fitting(s) that provide expansion and contraction for at least 0.000078 inch per foot of length of straight run per deg F (0.0115 mm per meter of length of straight run per deg C) of temperature change for metal conduits.
- d. Install expansion fittings at locations where conduits cross building or structure expansion joints.
- e. Install expansion-joint fitting with position, mounting, and piston setting selected in accordance with manufacturer's published instructions for conditions at specific location at time of installation. Install conduit supports to allow for expansion movement.
7. Duct Raceways Penetrating Rooms or Walls with Acoustical Requirements: Seal duct raceway openings on both sides of rooms or walls with acoustically rated putty or firestopping.
8. Identification: Provide labels for conduit assemblies, duct raceways, and associated electrical equipment.
- a. Provide warning signs.

H. Interfaces with Other Work:

1. Coordinate installation of new products for Mechanical system with existing conditions.
2. Coordinate with Section 078413 "Penetration Firestopping" for installation of firestopping at penetrations of fire-rated floor and wall assemblies.
3. Coordinate with Section 260529 "Hangers and Supports for Electrical Systems" for installation of conduit hangers and supports.
4. Coordinate with Mechanical Contractor and Mechanical Drawings for work on systems pertaining to scope of work.

3.2 PROTECTION

- A. Protect coatings, finishes, and cabinets from damage and deterioration.
 - 1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
 - 2. Repair damage to PVC coatings or paint finishes with matching touchup coating recommended by manufacturer.

END OF SECTION 260533.13

SECTION 260533.16 - BOXES AND COVERS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Metallic outlet boxes, device boxes, rings, and covers.
2. Nonmetallic outlet boxes, device boxes, rings, and covers.
3. Junction boxes and pull boxes.
4. Cover plates for device boxes.
5. Hoods for outlet boxes.

B. Products Installed, but Not Furnished, under This Section:

1. See Section 260553 "Identification for Electrical Systems" for electrical equipment labels.

C. Related Requirements:

1. Section 260010 "Supplemental Requirements for Electrical" for additional abbreviations, definitions, submittals, qualifications, testing agencies, and other Project requirements applicable to Work specified in this Section.
2. Section 260011 "Facility Performance Requirements for Electrical" for seismic-load, wind-load, acoustical, and other field conditions applicable to Work specified in this Section.

1.2 ACTION SUBMITTALS

A. Product Data:

1. Metallic outlet boxes, device boxes, rings, and covers.
2. Nonmetallic outlet boxes, device boxes, rings, and covers.
3. Junction boxes and pull boxes.
4. Cover plates for device boxes.
5. Hoods for outlet boxes.

B. Shop Drawings:

1. Shop drawings for floor boxes.

C. Samples:

1. Floor box samples for initial selection.

2. Raised floor box samples for initial selection.
3. Recessed access-floor box samples for initial selection.
4. Concrete box samples for initial selection.

D. Sustainable design submittals.

1. Nonmetallic outlet boxes, device boxes, rings, and covers.
2. Junction boxes and pull boxes.
3. Cover plates for device boxes.

1.3 INFORMATIONAL SUBMITTALS

A. Manufacturers' Published Instructions:

1. Metallic outlet boxes, device boxes, rings, and covers.
2. Nonmetallic outlet boxes, device boxes, rings, and covers.
3. Junction boxes and pull boxes.
4. Cover plates for device boxes.
5. Hoods for outlet boxes.

PART 2 - PRODUCTS

2.1 METALLIC OUTLET BOXES, DEVICE BOXES, RINGS, ANDCOVERS

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
2. Listing Criteria: UL CCN QCIT; including UL514A.

B. Source Quality Control:

1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.
3. Samples:
 - a. Floor Box Samples for Initial Selection: Manufacturer's standard color sheets, showing full range of available colors and flooring inserts for each type of floor box.
 - b. Raised Floor Box Samples for Initial Selection: Manufacturer's standard color sheets, showing full range of available colors and flooring inserts for each type of floor box.

- c. Recessed Access-Floor Box Samples for Initial Selection: Manufacturer's standard color sheets, showing full range of available colors and flooring inserts for each type of floor box.
 - d. Concrete Box Samples for Initial Selection: Manufacturer's standard color sheets, showing full range of available colors and flooring inserts for each type of floor box.
- C. UL QCIT - Metallic Outlet Boxes and Covers:
 - 1. Description: Box having pryout openings, knockouts, threaded entries, or hubs in either the sides of the back, or both, for entrance of conduit, conduit or cable fittings, or cables, with provisions for mounting outlet box cover, but without provisions for mounting wiring device directly to box.
 - 2. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. ABB, Electrification Business.
 - b. Appleton; Emerson Electric Co., Automation Solutions.
 - c. Arlington Industries, Inc.
 - d. Crouse-Hinds; brand of Eaton, Electrical Sector.
 - e. Hubbell Premise Wiring; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - f. Hubbell Wiring Device-Kellems; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - g. Killark; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - h. MonoSystems, Inc.
 - i. O-Z/Gedney; brand of Emerson Electric Co., Automation Solutions, Appleton Group.
 - j. Pass & Seymour; Legrand North America, LLC.
 - k. Patriot Aluminum Products, LLC.
 - l. Plasti-Bond; Robroy Industries.
 - m. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - n. Spring City Electrical Manufacturing Company.
 - o. Topaz Lighting & Electric.
 - p. Wiremold; Legrand North America, LLC.
 - 3. Options:
 - a. Material: Sheet steel.
 - b. Sheet Metal Depth: Minimum 2 inch.
- D. UL QCIT - Metallic Conduit Bodies:
 - 1. Description: Means for providing access to interior of conduit or tubing system through one or more removable covers at junction or terminal point. In the United States, conduit bodies are listed in accordance with outlet box requirements.

2. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. ABB, Electrification Business.
 - b. Appleton; Emerson Electric Co., Automation Solutions.
 - c. Crouse-Hinds; brand of Eaton, Electrical Sector.
 - d. Killark; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - e. O-Z/Gedney; brand of Emerson Electric Co., Automation Solutions, Appleton Group.
 - f. Pass & Seymour; Legrand North America, LLC.
 - g. Patriot Aluminum Products, LLC.
 - h. Plasti-Bond; Robroy Industries.
 - i. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - j. Topaz Lighting & Electric.

E. UL QCIT - Metallic Device Boxes:

1. Description: Box with provisions for mounting wiring device directly to box.
2. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. ABB, Electrification Business.
 - b. Appleton; Emerson Electric Co., Automation Solutions.
 - c. Arlington Industries, Inc.
 - d. Crouse-Hinds; brand of Eaton, Electrical Sector.
 - e. Hubbell Premise Wiring; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - f. Hubbell Wiring Device-Kellems; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - g. Killark; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - h. O-Z/Gedney; brand of Emerson Electric Co., Automation Solutions, Appleton Group.
 - i. Patriot Aluminum Products, LLC.
 - j. Plasti-Bond; Robroy Industries.
 - k. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - l. Topaz Lighting & Electric.
3. Options:
 - a. Material: Sheet steel.
 - b. Sheet Metal Depth: minimum 2 inch.

F. UL QCIT - Metallic Extension Rings:

1. Description: Ring intended to extend sides of outlet box or device box to increase box depth, volume, or both.
2. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. ABB, Electrification Business.
 - b. Appleton; Emerson Electric Co., Automation Solutions.
 - c. B-Line; a division of Eaton, Electrical Sector.
 - d. Crouse-Hinds; brand of Eaton, Electrical Sector.
 - e. Hubbell Wiring Device-Kellems; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - f. O-Z/Gedney; brand of Emerson Electric Co., Automation Solutions, Appleton Group.
 - g. Pass & Seymour; Legrand North America, LLC.
 - h. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - i. Topaz Lighting & Electric.

2.2 NONMETALLIC OUTLET BOXES, DEVICE BOXES, RINGS, AND COVERS

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70 and marked for intended location and use.
2. Listing Criteria: UL CCN QCMZ; including UL514C.

B. Source Quality Control:

1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.
3. Samples:
 - a. Floor Box Samples for Initial Selection: Manufacturer's standard color sheets, showing full range of available colors and flooring inserts for each type of floor box.
 - b. Raised Floor Box Samples for Initial Selection: Manufacturer's standard color sheets, showing full range of available colors and flooring inserts for each type of floor box.
 - c. Recessed Access-Floor Box Samples for Initial Selection: Manufacturer's standard color sheets, showing full range of available colors and flooring inserts for each type of floor box.

- d. Concrete Box Samples for Initial Selection: Manufacturer's standard color sheets, showing full range of available colors and flooring inserts for each type of floor box.

C. UL QCMZ - Nonmetallic Outlet Boxes and Covers:

1. Description: Box having pryout openings, knockouts, threaded entries, or hubs in either the sides or the back, or both, for entrance of conduit, conduit or cable fittings, or cables, with provisions for mounting outlet box cover, but without provisions for mounting wiring device directly to box.
2. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. ABB, Electrification Business.
 - b. Allied Tube & Conduit; Atkore International.
 - c. Appleton; Emerson Electric Co., Automation Solutions.
 - d. Arlington Industries, Inc.
 - e. Arrow Hart, Wiring Devices; Eaton, Electrical Sector.
 - f. Cantex Inc.
 - g. Crouse-Hinds; brand of Eaton, Electrical Sector.
 - h. Ericson Manufacturing Company.
 - i. Hubbell Premise Wiring; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - j. Hubbell Wiring Device-Kellems; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - k. Intermatic, Inc.
 - l. JM Eagle.
 - m. Leviton Manufacturing Co., Inc.
 - n. Panduit Corp.
 - o. Pass & Seymour; Legrand North America, LLC.
 - p. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - q. Topaz Lighting & Electric.
 - r. Wiremold; Legrand North America, LLC.

D. UL QCMZ - Nonmetallic Conduit Bodies:

1. Description: Means for providing access to interior of conduit or tubing system through one or more removable covers at junction or terminal point. In the United States, conduit bodies are listed in accordance with outlet box requirements.
2. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. ABB, Electrification Business.
 - b. Allied Tube & Conduit; Atkore International.
 - c. Arlington Industries, Inc.
 - d. Cantex Inc.

- e. JM Eagle.
- f. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
- g. Topaz Lighting & Electric.

E. UL QCMZ - Nonmetallic Device Boxes:

- 1. Description: Box with provisions for mounting wiring device directly to box.
- 2. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. ABB, Electrification Business.
 - b. Allied Tube & Conduit; Atkore International.
 - c. Arlington Industries, Inc.
 - d. Cantex Inc.
 - e. Crouse-Hinds; brand of Eaton, Electrical Sector.
 - f. Hubbell Wiring Device-Kellems; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - g. Pass & Seymour; Legrand North America, LLC.
 - h. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.

F. UL QCMZ - Nonmetallic Extension Rings:

- 1. Description: Ring intended to extend sides of outlet box or device box to increase box depth, volume, or both.
- 2. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. ABB, Electrification Business.
 - b. Allied Tube & Conduit; Atkore International.
 - c. Arlington Industries, Inc.
 - d. Arrow Hart, Wiring Devices; Eaton, Electrical Sector.
 - e. Cantex Inc.
 - f. Hubbell Wiring Device-Kellems; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - g. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.

2.3 JUNCTION BOXES AND PULL BOXES

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70 and marked for intended location and use.
 2. Listing Criteria: UL CCN BGUZ; including UL 50 and UL 50E.
- B. Source Quality Control:
1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
 2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.
- C. UL BGUZ - Indoor Sheet Metal Junction and Pull Boxes:
1. Description: Box with a blank cover that serves the purpose of joining different runs of raceway or cable.
 2. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Adalet.
 - b. Appleton; Emerson Electric Co., Automation Solutions.
 - c. B-Line; a division of Eaton, Electrical Sector.
 - d. FSR Inc.
 - e. Hoffman; brand of nVent Electrical plc.
 - f. Hubbell Industrial Controls; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - g. Hubbell Wiring Device-Kellems; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - h. Milbank Manufacturing Company.
 - i. N J Sullivan Company.
 - j. O-Z/Gedney; brand of Emerson Electric Co., Automation Solutions, Appleton Group.
 - k. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - l. Spring City Electrical Manufacturing Company.
 - m. Square D; Schneider Electric USA.
- D. UL BGUZ - Indoor Cast-Metal Junction and Pull Boxes:
1. Description: Box with a blank cover that serves the purpose of joining different runs of raceway or cable.
 2. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Adalet.

- b. Appleton; Emerson Electric Co., Automation Solutions.
- c. Crouse-Hinds; brand of Eaton, Electrical Sector.
- d. O-Z/Gedney; brand of Emerson Electric Co., Automation Solutions, Appleton Group.

E. and Pull Boxes:

- 1. Description: Box with a blank cover that serves the purpose of joining different runs of raceway or cable.
- 2. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. ABB, Electrification Business.
 - b. Allied Tube & Conduit; Atkore International.
 - c. Cantex Inc.
 - d. Hubbell Wiring Device-Kellems; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - e. JM Eagle.
 - f. Robroy Enclosures; Robroy Industries.
 - g. Topaz Lighting & Electric.

F. UL BGUZ - Outdoor Sheet Metal Junction and Pull Boxes:

- 1. Description: Box with a blank cover that serves the purpose of joining different runs of raceway or cable.
- 2. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Adalet.
 - b. Appleton; Emerson Electric Co., Automation Solutions.
 - c. B-Line; a division of Eaton, Electrical Sector.
 - d. FSR Inc.
 - e. Hoffman; brand of nVent Electrical plc.
 - f. Hubbell Industrial Controls; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - g. Hubbell Wiring Device-Kellems; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - h. Milbank Manufacturing Company.
 - i. N J Sullivan Company.
 - j. O-Z/Gedney; brand of Emerson Electric Co., Automation Solutions, Appleton Group.
 - k. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - l. Spring City Electrical Manufacturing Company.
 - m. Square D; Schneider Electric USA.

3. Options:

G. UL BGUZ - Outdoor Cast-Metal Junction and PullBoxes:

1. Description: Box with a blank cover that serves the purpose of joining different runs of raceway or cable.
2. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Adalet.
 - b. Appleton; Emerson Electric Co., Automation Solutions.
 - c. Crouse-Hinds; brand of Eaton, Electrical Sector.
 - d. O-Z/Gedney; brand of Emerson Electric Co., Automation Solutions, Appleton Group.

H. UL BGUZ - Outdoor Polymeric Junction and PullBoxes:

1. Description: Box with a blank cover that serves the purpose of joining different runs of raceway or cable.
2. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. ABB, Electrification Business.
 - b. Allied Tube & Conduit; Atkore International.
 - c. Cantex Inc.
 - d. Hubbell Wiring Device-Kellems; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - e. JM Eagle.
 - f. Robroy Enclosures; Robroy Industries.
 - g. Topaz Lighting & Electric.

2.4 COVER PLATES FOR DEVICES BOXES

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70 and marked for intended location and use.
2. Listing Criteria: UL CCN QCIT or UL CCN QCMZ; including UL 514D.
3. Wallplate-Securing Screws: Metal with head color to match wallplate finish.

B. Source Quality Control:

1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
 2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.
- C. UL QCIT or QCMZ - Metallic Cover Plates for Device Boxes:
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. ABB, Electrification Business.
 - b. Appleton; Emerson Electric Co., Automation Solutions.
 - c. Arrow Hart, Wiring Devices; Eaton, Electrical Sector.
 - d. Crouse-Hinds; brand of Eaton, Electrical Sector.
 - e. Hubbell Premise Wiring; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - f. Hubbell Wiring Device-Kellems; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - g. Intermatic, Inc.
 - h. Leviton Manufacturing Co., Inc.
 - i. O-Z/Gedney; brand of Emerson Electric Co., Automation Solutions, Appleton Group.
 - j. Panduit Corp.
 - k. Pass & Seymour; Legrand North America, LLC.
 - l. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
 - m. Topaz Lighting & Electric.
 - n. Wiremold; Legrand North America, LLC.
 2. Options:
 - a. Damp and Wet Locations: Listed, labeled, and marked for location and use. Provide gaskets and accessories necessary for compliance with listing.
 - b. Wallplate Material: As indicated on architectural Drawings.
- D. UL QCIT or QCMZ - Nonmetallic Cover Plates for Device Boxes:
1. <Double click here to find, evaluate, and insert list of manufacturers and products.>
 2. Options:
 - a. Damp and Wet Locations: Listed, labeled, and marked for location and use. Provide gaskets and accessories necessary for compliance with listing.
 - b. Wallplate Material: As indicated on architectural Drawings.
 - c. Color: As indicated on architectural Drawings.

PART 3 - EXECUTION

3.1 PREPARATION

A. Shop Drawings: Prepare and submit the following:

1. Any deviations from the Construction Documents.

3.2 SELECTION OF BOXES AND COVERS FOR ELECTRICAL SYSTEMS

A. Unless more stringent requirements are specified in Contract Documents or manufacturers' published instructions, comply with NFPA 70 for selection of boxes and enclosures. Consult Architect for resolution of conflicting requirements.

B. Degree of Protection:

1. Outdoors:

- a. Type 3R unless otherwise indicated.
- b. Locations Exposed to Hosedown: Type 4.
- c. Locations Subject to Potential Flooding: Type 6P.
- d. Locations Aboveground Where Mechanism Must Operate When Ice Covered: Type 3S.
- e. Locations in-Ground or Exposed to Corrosive Agents: Type 4X.
- f. Locations in-Ground or Exposed to Corrosive Agents Where Mechanism Must Operate When Ice Covered: Type 3SX.

2. Indoors:

- a. Type 1 unless otherwise indicated.
- b. Damp or Dusty Locations: Type 2.
- c. Locations Exposed to Spraying Oil or Coolants: Type 13.

C. Exposed Boxes Installed Less Than 2.5 m (8 ft) Above Floor:

1. Provide cast-metal boxes.
2. Provide exposed cover. Flat covers with angled mounting slots or knockouts are prohibited.

3.3 INSTALLATION OF BOXES AND COVERS FOR ELECTRICAL SYSTEMS

A. Comply with manufacturer's published instructions.

- B. Reference Standards for Installation: Unless more stringent installation requirements are specified in Contract Documents or manufacturers' published instructions, comply with the following:
1. Outlet, Device, Pull, and Junction Boxes: Article 314 of NFPA 70.
 2. Consult Architect for resolution of conflicting requirements.
- C. Special Installation Techniques:
1. Provide boxes in wiring and raceway systems wherever required for pulling of wires, making connections, and mounting of devices or fixtures.
 2. Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not individually indicated, give priority to ADA requirements. Install boxes with height measured to center of box unless otherwise indicated.
 3. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block, and install box flush with surface of wall. Prepare block surfaces to provide a flat surface for a raintight connection between box and cover plate or supported equipment and box, whether installed indoors or outdoors.
 4. Horizontally separate boxes mounted on opposite sides of walls so they are not in the same vertical channel.
 5. Locate boxes so that cover or plate will not span different building finishes.
 6. Support boxes in recessed ceilings independent of ceiling tiles and ceiling grid.
 7. Support boxes of three gangs or more from more than one side by spanning two framing members or mounting on brackets specifically designed for purpose.
 8. Fasten junction and pull boxes to, or support from, building structure. Do not support boxes by conduits.
 9. Set metal floor boxes level and flush with finished floor surface.
 10. Set nonmetallic floor boxes level. Trim after installation to fit flush with finished floor surface.
 11. Do not install aluminum boxes, enclosures, or fittings in contact with concrete or earth.
 12. Do not rely on locknuts to penetrate nonconductive coatings on enclosures. Remove coatings in the locknut area prior to assembling conduit to enclosure to ensure a continuous ground path.
 13. Boxes and Enclosures in Areas or Walls with Acoustical Requirements:
 - a. Seal openings and knockouts in back and sides of boxes and enclosures with acoustically rated putty.
 - b. Provide gaskets for wall plates and covers.
 14. Identification: Provide labels for boxes and associated electrical equipment.
 - a. Identify field-installed conductors, interconnecting wiring, and components.
 - b. Provide warning signs.
 - c. Label each box with engraved metal or laminated-plastic nameplate.
 - 15.
- D. Interfaces with Other Work:

1. Coordinate installation of new products for Mechanical System with existing conditions.
2. Coordinate with Section 260573.13 "Short-Circuit Studies" for determining available fault current on input feeder.
3. Coordinate with Section 260573.19 "Arc-Flash Hazard Analysis" for determining arc-flash hazard on input feeder.
4. Coordinate with for Mechanical Contractor and Mechanical Drawings for interfacing related Work.

3.4 CLEANING

- A. Remove construction dust and debris from boxes before installing wallplates, covers, and hoods.

3.5 PROTECTION

- A. After installation, protect boxes from construction activities. Remove and replace items that are contaminated, defaced, damaged, or otherwise caused to be unfit for use prior to acceptance by Owner.

END OF SECTION 260533.16

SECTION 260544 - SLEEVES AND SLEEVE SEALS FOR ELECTRICAL RACEWAYS AND CABLING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Round sleeves.
2. Rectangular sleeves.
3. Sleeve-seal systems.
4. Sleeve-seal fittings.
5. Grout.
6. Pourable sealants.
7. Foam sealants.

B. Related Requirements:

1. Section 260010 "Supplemental Requirements for Electrical" for additional abbreviations, definitions, submittals, qualifications, testing agencies, and other Project requirements applicable to Work specified in this Section.
2. Section 260011 "Facility Performance Requirements for Electrical" for seismic-load, wind-load, acoustical, and other field conditions applicable to Work specified in this Section.
3. Section 078413 "Penetration Firestopping" for penetration firestopping installed in fire-resistance-rated walls, horizontal assemblies, and smoke barriers, with and without penetrating items.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 ROUND SLEEVES

A. Steel Wall Sleeves:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Advance Products & Systems, LLC.

- b. CCI Piping Systems.
 - c. Flexicraft Industries.
 - d. GPT; a division of EnPRO Industries.
 - e. Specified Technologies Inc.
 2. General Characteristics: ASTM A53/A53M, Type E, Grade B, Schedule 40, zinc coated, plain ends and integral waterstop.
- B. Cast-Iron Wall Sleeves:
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. American Cast Iron Pipe Company.
 - b. Flexicraft Industries.
 - c. McWane Ductile.
 2. General Characteristics: Cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop.
- C. PVC Pipe Sleeves:
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. CCI Piping Systems.
 - b. GPT; a division of EnPRO Industries.
 - c. Metraflex Company (The).
 2. General Characteristics: ASTM D1785, Schedule 40.
- D. PVC Molded Sleeves:
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. ABB, Electrification Business.
 - b. American Polywater Corporation.
 - c. Arlington Industries, Inc.
 - d. Reliance Worldwide Corporation.
 - e. Roxtec Inc.
 2. General Characteristics: With nailing flange for attaching to wooden forms.
- E. Round, Galvanized-Steel, Sheet Metal Sleeves:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Benefast.
 - b. Specified Technologies Inc.
2. General Characteristics: Galvanized-steel sheet; thickness not less than 0.0239 inch; round tube closed with welded longitudinal joint, with tabs for screw-fastening the sleeve to the board.
3. .

2.2 SLEEVE-SEAL FITTINGS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 1. Holdrite; a division of Reliance Worldwide Corporation.
- B. General Characteristics: Manufactured plastic, sleeve-type, waterstop assembly made for embedding in concrete slab or wall. Unit must have plastic or rubber waterstop collar with center opening to match piping OD.

2.3 GROUT

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 1. Specified Technologies Inc.
 2. W. R. Meadows, Inc.
- B. General Characteristics: Nonshrink; recommended for interior and exterior sealing openings in non-fire-rated walls or floors.
 1. Standard: ASTM C1107/C1107M, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.
 2. Design Mix: 5000 psi, 28-day compressive strength.
 3. Packaging: Premixed and factory packaged.

2.4 POURABLE SEALANTS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 1. Carlisle Syntec Systems.
 2. GAF.

3. Johns Manville; a Berkshire Hathaway company.
 4. Specified Technologies Inc.
- B. Performance Criteria:
1. General Characteristics: Single-component, neutral-curing elastomeric sealants of grade indicated below.
 - a. Grade: Pourable (self-leveling) formulation for openings in floors and other horizontal surfaces that are not fire rated.
- C. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
1. Innovative Chemical Products (Building Solutions Group).
 2. The Dow Chemical Company.
- D. Performance Criteria:
1. General Characteristics: Multicomponent, liquid elastomers that, when mixed, expand and cure in place to produce a flexible, nonshrinking foam. Foam expansion must not damage cables or crack penetrated structure.

PART 3 - EXECUTION

3.1 INSTALLATION OF SLEEVES FOR NON-FIRE-RATED ELECTRICAL PENETRATIONS

- A. Sleeves for Conduits Penetrating Above-Grade, Non-Fire-Rated, Concrete and Masonry-Unit Floors and Walls:
1. Interior Penetrations of Non-Fire-Rated Walls and Floors:
 - a. Seal space outside of sleeves with mortar or grout. Pack sealing material solidly between sleeve and wall or floor so no voids remain. Tool exposed surfaces smooth; protect material while curing.
 - b. Seal annular space between sleeve and raceway or cable, using joint sealant appropriate for size, depth, and location of joint. Comply with requirements in Section 079200 "Joint Sealants."
 2. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.
 3. Install sleeves for wall penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of walls. Cut sleeves to length for mounting flush with both surfaces of walls. Deburr after cutting.
- B. Sleeves for Conduits Penetrating Non-Fire-Rated Wall Assemblies:

1. Use circular metal sleeves unless penetration arrangement requires rectangular sleeved opening.
 2. Seal space outside of sleeves with approved joint compound for wall assemblies.
- C. Roof-Penetration Sleeves: Seal penetration of individual raceways and cables with flexible boot-type flashing units applied in coordination with roofing work.
- D. Aboveground, Exterior-Wall Penetrations: Seal penetrations using steel pipe sleeves and mechanical sleeve-seal systems. Size sleeves to allow for 1 inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.
- E. Underground, Exterior-Wall and Floor Penetrations:

END OF SECTION 260544

SECTION 262413 - SWITCHBOARDS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Switchboards.
2. Surge protection devices.
3. Disconnecting and overcurrent protective devices.
4. Instrumentation.
5. Control power.
6. Accessory components and features.

B. Related Requirements

1. Section 260010 "Supplemental Requirements for Electrical" for additional abbreviations, definitions, submittals, qualifications, testing agencies, and other Project requirements applicable to Work specified in this Section.
2. Section 260011 "Facility Performance Requirements for Electrical" for seismic-load, wind-load, acoustical, and other field conditions applicable to Work specified in this Section.
3. Section 260573.19 "Arc-Flash Hazard Analysis" for arc-flash analysis and arc-flash label requirements.

1.2 COORDINATION

- A. Coordinate layout and installation of switchboards and components with other construction that penetrates walls or is supported by them, including electrical and other types of equipment, raceways, piping, encumbrances to workspace clearance requirements, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.
- B. Coordinate sizes and locations of concrete bases with actual equipment provided.

1.3 ACTION SUBMITTALS

A. Product Data:

1. Switchboards.
2. Overcurrent protective devices.
3. Surge protection devices.
4. Ground-fault protection devices.

5. Accessories.
6. Other components.
7. Include dimensions and manufacturers' technical data on features, performance, electrical characteristics, ratings, accessories, and finishes.

B. Shop Drawings: For each switchboard and related equipment.

1. Include dimensioned plans, elevations, sections, and details, including required clearances and service space around equipment. Show tabulations of installed devices, equipment features, and ratings.
2. Detail enclosure types for types other than UL 50E, Type 1.
3. Detail bus configuration, current, and voltage ratings.
4. Detail short-circuit current rating of switchboards and overcurrent protective devices.
5. Include descriptive documentation of optional barriers specified for electrical insulation and isolation.
6. Detail utility company's metering provisions with indication of approval by utility company.
7. Include evidence of listing, by qualified electrical testing laboratory recognized by authorities having jurisdiction, for series rating of installed devices.
8. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices and auxiliary components.
9. Include time-current coordination curves for each type and rating of overcurrent protective device included in switchboards. Submit on translucent log-log graph paper; include selectable ranges for each type of overcurrent protective device.
10. Include diagram and details of proposed mimic bus.
11. Include schematic and wiring diagrams for power, signal, and control wiring.

C. Samples: Representative portion of mimic bus with specified material and finish, for color selection.

D. Field Quality-Control Submittals:

1. Field Quality-Control Reports:
 - a. Test procedures used.
 - b. Test results that comply with requirements.
 - c. Results of failed tests and corrective action taken to achieve test results that comply with requirements.

1.4 INFORMATIONAL SUBMITTALS

A. Manufacturers' Published Instructions: Record copy of official installation instructions issued to Installer by manufacturer for the following:

1. Handling, storing, and providing temporary heat.
2. Mounting accessories and anchoring devices.
3. Testing and adjusting overcurrent protective devices.

- B. Sample warranties.

1.5 CLOSEOUT SUBMITTALS

- A. Warranty documentation.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Spare Parts: Furnish to Owner spare parts, for repairing switchboards, that are packaged with protective covering for storage on-site and identified with labels describing contents. Include the following:
 - 1. Potential Transformer Fuses: Equal to 10 percent of quantity installed for each size and type but no fewer than two of each size and type.
 - 2. Control-Power Fuses: Equal to 10 percent of quantity installed for each size and type, but no fewer than two of each size and type.
 - 3. Fuses and Fusible Devices for Fused Circuit Breakers: Equal to 10 percent of quantity installed for each size and type but no fewer than three of each size and type.
 - 4. Fuses for Fused Switches: Equal to 10 percent of quantity installed for each size and type but no fewer than three of each size and type.
 - 5. Fuses for Fused Power-Circuit Devices: Equal to 10 percent of quantity installed for each size and type but no fewer than three of each size and type.
 - 6. Indicating Lights: Equal to 10 percent of quantity installed for each size and type but no less than one of each size and type.
- B. Special Tools: Furnish to Owner proprietary equipment, keys, and software required to operate, maintain, repair, adjust, or implement future changes to switchboards, that are packaged with protective covering for storage on-site and identified with labels describing contents. Include the following:
 - 1. Accessory Set: Include tools and miscellaneous items required for overcurrent protective device test, inspection, maintenance, and operation.
 - 2. Portable Test Set: For testing functions of solid-state trip devices without removing from switchboard. Include relay and meter test plugs suitable for testing switchboard meters and switchboard class relays.
 - 3. Portable Circuit-Breaker Lifting Device: Floor-supported, roller-based, elevating carriage arranged for movement of circuit breakers in and out of compartments for present and future circuit breakers.
 - 4. Overhead Circuit-Breaker Lifting Device: Mounted at top front of switchboard, with hoist and lifting yokes matching each drawout circuit breaker.
 - 5. Spare-Fuse Cabinet: Suitably identified, wall-mounted, lockable, compartmented steel box or cabinet. Arrange for wall mounting.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver switchboards in sections or lengths that can be moved past obstructions in delivery path.
- B. Remove loose packing and flammable materials from inside switchboards and install temporary electric heating (250 W per section) to prevent condensation.
- C. Handle and prepare switchboards for installation in accordance with NECA 400.

1.8 WARRANTY

- A. Special Installer Extended Warranty: Installer warrants that fabricated and installed switchboard perform in accordance with specified requirements and agrees to repair or replace components that fail to perform as specified within extended-warranty period.
 - 1. Extended-Warranty Period: Two years from date of Substantial Completion; full coverage for labor, materials, and equipment.

PART 2 - PRODUCTS

2.1 SWITCHBOARDS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Eaton.
 - 2. Siemens Industry, Inc., Energy Management Division.
 - 3. Square D; Schneider Electric USA.
- B. Source Limitations: Obtain switchboards, overcurrent protective devices, components, and accessories from single source from single manufacturer.
- C. Product Selection for Restricted Space: Drawings indicate maximum dimensions for switchboards including clearances between switchboards and adjacent surfaces and other items. Comply with indicated maximum dimensions.
- D. Electrical Components, Devices, and Accessories: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
- E. Comply with NEMA PB 2.
- F. Comply with NFPA 70.
- G. Comply with UL 891.

- H. Front-Connected, Front-Accessible Switchboards:
 - 1. Main Devices: Panel mounted.
 - 2. Branch Devices: Panel mounted.
 - 3. Sections front and rear aligned.
- I. Front- and Side-Accessible Switchboards:
 - 1. Main Devices: Fixed, individually mounted.
 - 2. Branch Devices: Panel mounted.
 - 3. Section Alignment: Front aligned.
- J. Nominal System Voltage: 240/120V.
- K. Main-Bus Continuous: 1200 A.
- L. Indoor Enclosures: Steel, UL 50E, Type 1.
- M. Enclosure Finish for Indoor Units: Factory-applied finish in manufacturer's standard gray finish over rust-inhibiting primer on treated metal surface.
- N. Barriers: Between adjacent switchboard sections.
- O. Insulation and isolation for main and vertical buses of feeder sections.
- P. Space Heaters: Factory-installed electric space heaters of sufficient wattage in each vertical section to maintain enclosure temperature above expected dew point.
 - 1. Space-Heater Control: Thermostats to maintain temperature of each section above expected dew point.
 - 2. Space-Heater Power Source: Transformer, factory installed in switchboard.
- Q. Service Entrance Rating: Switchboards intended for use as service entrance equipment may contain from one to six service disconnecting means with overcurrent protection, neutral bus with disconnecting link, grounding electrode conductor terminal, and main bonding jumper.
- R. Utility Metering Compartment: Barrier compartment and section complying with utility company's requirements; hinged sealable door; buses provisioned for mounting utility company's current transformers and potential transformers or potential taps as required by utility company. If separate vertical section is required for utility metering, match and align with basic switchboard. Provide service entrance label and necessary applicable service entrance features.
- S. Bus Transition and Incoming Pull Sections: Matched and aligned with basic switchboard.
- T. Pull Box on Top of Switchboard:
 - 1. Adequate ventilation to maintain temperature in pull box within same limits as switchboard.

2. Set back from front to clear circuit-breaker removal mechanism.
 3. Removable covers may form top, front, and sides. Top covers at rear must be easily removable for drilling and cutting.
 4. Bottom must be insulating, fire-resistive material with separate holes for cable drops into switchboard.
 5. Cable supports must be arranged to facilitate cabling and adequate to support cables indicated, including those for future installation.
- U. Buses and Connections: Three phase, four wire unless otherwise indicated.
1. Provide phase bus arrangement A, B, C from front to back, top to bottom, and left to right when viewed from front of switchboard.
 2. Phase- and Neutral-Bus Material:
 - a. Hard-drawn copper of 98 percent conductivity.
 - b. Tin-plated, high-strength, electrical-grade aluminum alloy with tin-plated aluminum circuit-breaker line connections.
 3. Copper feeder circuit-breaker line connections.
 4. Tin-plated aluminum feeder circuit-breaker line connections.
 5. Load Terminals: Insulated, rigidly braced, runback bus extensions, of same material as through buses, equipped with mechanical connectors for outgoing circuit conductors. Provide load terminals for future circuit-breaker positions at full-ampere rating of circuit-breaker position.
 6. Ground Bus: 1/4 by 2 inch hard-drawn copper of 98 percent conductivity, equipped with mechanical connectors for feeder and branch-circuit ground conductors.
 7. Main-Phase Buses and Equipment-Ground Buses: Uniform capacity for entire length of switchboard's main and distribution sections. Provide for future extensions from both ends.
 8. Disconnect Links:
 - a. Isolate neutral bus from incoming neutral conductors.
 - b. Bond neutral bus to equipment-ground bus for switchboards utilized as service equipment or separately derived systems.
 9. Neutral Buses: 100 percent of ampacity of phase buses unless otherwise indicated, equipped with mechanical connectors for outgoing circuit neutral cables. Brace bus extensions for busway feeder neutral bus.
 10. Isolation Barrier Access Provisions: Permit checking of bus-bolt tightness.
- V. Future Devices: Equip compartments with mounting brackets, supports, bus connections, and appurtenances at full rating of circuit-breaker compartment.
- W. Bus-Bar Insulation: Factory-applied, flame-retardant, tape wrapping of individual bus bars or flame-retardant, spray-applied insulation. Minimum insulation temperature rating of 105 deg C.

- X. Fungus Proofing: Permanent fungicidal treatment for overcurrent protective devices and other components including instruments and instrument transformers.

2.2 DISCONNECTING AND OVERCURRENT PROTECTIVE DEVICES

- A. Molded-Case Circuit Breaker (MCCB): Comply with UL 489, with interrupting capacity to meet available fault currents.
 - 1. Thermal-Magnetic Circuit Breakers: Inverse time-current element for low-level overloads and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.
 - 2. Adjustable Instantaneous-Trip Circuit Breakers: Magnetic trip element with front-mounted, field-adjustable trip setting.
 - 3. Electronic trip circuit breakers with RMS sensing; field-replaceable rating plug or field-replicable electronic trip; and the following field-adjustable settings:
 - a. Instantaneous trip.
 - b. Long- and short-time pickup levels.
 - c. Long and short time adjustments.
 - d. Ground-fault pickup level, time delay, and I^2t response.
 - 4. Current-Limiting Circuit Breakers: Frame sizes 400 A and smaller; let-through ratings less than NEMA FU 1, RK-5.
 - 5. Integrally Fused Circuit Breakers: Thermal-magnetic trip element with integral limiter-style fuse listed for use with circuit breaker; trip activation on fuse opening or on opening of fuse compartment door.
 - 6. GFCI Circuit Breakers: Single- and double-pole configurations with Class A ground-fault protection (6 mA trip).
 - 7. Ground-Fault Equipment Protection (GFEP) Circuit Breakers: Class B ground-fault protection (30 mA trip).
 - 8. MCCB Features and Accessories:
 - a. Standard frame sizes, trip ratings, and number of poles.
 - b. Lugs: Mechanical style, suitable for number, size, trip ratings, and conductor material.
 - c. Application Listing: Appropriate for application; Type SWD for switching fluorescent lighting loads; Type HID for feeding fluorescent and high-intensity discharge (HID) lighting circuits.
 - d. Ground-Fault Protection: Integrally mounted relay and trip unit with adjustable pickup and time-delay settings, push-to-test feature, and ground-fault indicator.
 - e. Zone-Selective Interlocking: Integral with electronic trip unit; for interlocking ground-fault protection function.
 - f. Communication Capability: Circuit-breaker-mounted communication module with functions and features compatible with power monitoring and control system specified in Section 260913 "Electrical Power Monitoring and Control."
 - g. Shunt Trip: 120 V trip coil energized from separate circuit, set to trip at 55 percent of rated voltage.

- h. Undervoltage Trip: Set to operate at 35 to 75 percent of rated voltage without intentional time delay.
 - i. Auxiliary Contacts: One SPDT switch with "a" and "b" contacts; "a" contacts mimic circuit-breaker contacts, "b" contacts operate in reverse of circuit-breaker contacts.
 - j. Key Interlock Kit: Externally mounted to prohibit circuit-breaker operation; key must be removable only when circuit breaker is in off position.
- B. Insulated-Case Circuit Breaker (ICCB): 80 percent rated, sealed, insulated-case power circuit breaker with interrupting capacity rating to meet available fault current.
 - 1. Fixed circuit-breaker mounting.
 - 2. Two-step, stored-energy closing.
 - 3. Standard-function, microprocessor-based trip units with interchangeable rating plug, trip indicators, and the following field-adjustable settings:
 - a. Instantaneous trip.
 - b. Time adjustments for long- and short-time pickup.
 - c. Ground-fault pickup level, time delay, and I squared t response.
 - 4. Zone-Selective Interlocking: Integral with electronic trip unit; for interlocking ground-fault protection function.
 - 5. Remote trip indication and control.
 - 6. Communication Capability: Web enabled integral Ethernet communication module and embedded Web server with factory-configured Web pages (HTML file format). Provide functions and features compatible with power monitoring and control system specified in Section 260913 "Electrical Power Monitoring and Control."
 - 7. Key Interlock Kit: Externally mounted to prohibit circuit-breaker operation; key must be removable only when circuit breaker is in off position.
 - 8. Control Voltage: 120 V(ac).
- C. Fused Switch: NEMA KS 1, Type HD; clips to accommodate specified fuses; lockable handle.
- D. Fuses are specified in Section 262813 "Fuses."

2.3 INSTRUMENTATION

- A. Instrument Transformers: NEMA EI 21.1, and the following:
 - 1. Potential Transformers: NEMA EI 21.1; 120 V, 60 Hz, single secondary; disconnecting type with integral fuse mountings. Burden and accuracy must be consistent with connected metering and relay devices.
 - 2. Current Transformers: NEMA EI 21.1; 5 A, 60 Hz, secondary; wound type; single secondary winding and secondary shorting device. Burden and accuracy must be consistent with connected metering and relay devices.
 - 3. Control-Power Transformers: Dry type, mounted in separate compartments for units larger than 3 kVA.

4. Current Transformers for Neutral and Ground-Fault Current Sensing: Connect secondary wiring to ground overcurrent relays, via shorting terminals, to provide selective tripping of main and tie circuit breaker. Coordinate with feeder circuit-breaker, ground-fault protection.
- B. Multifunction Digital-Metering Monitor: Microprocessor-based unit suitable for three- or four-wire systems and with the following features:
 1. Switch-selectable digital display of the following values with maximum accuracy tolerances as indicated:
 - a. Phase Currents, Each Phase: Plus or minus 0.5 percent.
 - b. Phase-to-Phase Voltages, Three Phase: Plus or minus 0.5 percent.
 - c. Phase-to-Neutral Voltages, Three Phase: Plus or minus 0.5 percent.
 - d. Megawatts: Plus or minus 1 percent.
 - e. Megavars: Plus or minus 1 percent.
 - f. Power Factor: Plus or minus 1 percent.
 - g. Frequency: Plus or minus 0.1 percent.
 - h. Accumulated Energy, Megawatt Hours: Plus or minus 1 percent; accumulated values unaffected by power outages up to 72 hours.
 - i. Megawatt Demand: Plus or minus 1 percent; demand interval programmable from five to 60 minutes.
 - j. Contact devices to operate remote impulse-totalizing demand meter.
 2. Mounting: Display and control unit flush or semiflush mounted in instrument compartment door.

2.4 CONTROL POWER

- A. Control Circuits:
 1. 120 V(ac), supplied through secondary disconnecting devices from control-power transformer.
 2. 120 V(ac), supplied from remote branchcircuit.
- B. Electrically Interlocked Main and Tie Circuit Breakers: Two control-power transformers in separate compartments, with interlocking relays, connected to primary side of each control-power transformer at line side of associated main circuit breaker. 120 V secondaries connected through automatic transfer relays to ensure fail-safe automatic transfer scheme.
- C. Control-Power Fuses: Primary and secondary fuses for current-limiting and overload protection of transformer and fuses for protection of control circuits.
- D. Control Wiring: Factory installed, with bundling, lacing, and protection included. Provide flexible conductors for 8 AWG and smaller, for conductors across hinges, and for conductors for interconnections between shipping units.

2.5 ACCESSORY COMPONENTS AND FEATURES

- A. Mounting Accessories: For anchors, mounting channels, bolts, washers, and other mounting accessories, comply with requirements in Section 260548.16 "Seismic Controls for Electrical Systems" or manufacturer's instructions.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Receive, inspect, handle, and store switchboards in accordance with NECA 400.
 - 1. Lift or move panelboards with spreader bars and manufacturer-supplied lifting straps following manufacturer's published instructions.
 - 2. Use rollers, slings, or other manufacturer-approved methods if lifting straps are not furnished.
 - 3. Protect from moisture, dust, dirt, and debris during storage and installation.
 - 4. Install temporary heating during storage in accordance with manufacturer's published instructions.
- B. Examine switchboards before installation. Reject switchboards that are moisture damaged or physically damaged.
- C. Examine elements and surfaces to receive switchboards for compliance with installation tolerances and other conditions affecting performance of the Work or that affect performance of equipment.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Installation Pathway: Remove and replace access fencing, doors, lift-out panels, and structures to provide pathway for moving switchboards into place.

3.3 INSTALLATION

- A. Comply with manufacturer's published instructions.
- B. Reference Standards:
 - 1. Switchboards and Accessories: Unless more stringent requirements are specified in Contract Documents or manufacturers' published instructions, comply with NECA 400.
 - 2. Consult Architect for resolution of conflicting requirements.
- C. Special Techniques:

1. Equipment Mounting: Install switchboards on concrete base, 4 inch nominal thickness. Comply with requirements for concrete base specified in Section 260529 "Hangers and Supports for Electrical Systems."
 - a. Install conduits entering underneath switchboard, entering under vertical section where conductors will terminate. Install with couplings flush with concrete base. Extend 2 inch above concrete base after switchboard is anchored in place.
 - b. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18 inch centers around full perimeter of concrete base.
 - c. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base and anchor into structural concrete floor.
 - d. Place and secure anchorage devices. Use setting drawings, templates, diagrams, published instructions, and directions furnished with items to be embedded.
 - e. Install anchor bolts to elevations required for proper attachment to switchboards.
 - f. Anchor switchboard to building structure at top of switchboard if required or recommended by manufacturer.
2. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, straps and brackets, and temporary blocking of moving parts from switchboard units and components.
3. Comply with mounting and anchoring requirements specified in Section 260548.16 "Seismic Controls for Electrical Systems."
4. Operating Instructions: Frame and mount printed basic operating instructions for switchboards, including control and key interlocking sequences and emergency procedures. Fabricate frame of finished wood or metal and cover instructions with clear acrylic plastic. Mount on front of switchboards.
5. Install filler plates in unused spaces of panel-mounted sections.
6. Install overcurrent protective devices, surge protection devices, and instrumentation.
 - a. Set field-adjustable switches and circuit-breaker trip ranges.
7. Install spare-fuse cabinet.

3.4 CONNECTIONS

- A. Comply with requirements for terminating feeder bus specified in Section 262500 "Enclosed Bus Assemblies." Drawings indicate general arrangement of bus, fittings, and specialties.
- B. Comply with requirements for terminating cable trays specified in Section 260536 "Cable Trays for Electrical Systems." Drawings indicate general arrangement of cable trays, fittings, and specialties.
- C. Bond conduits entering underneath switchboard to equipment ground bus with bonding conductor sized in accordance with NFPA 70.
- D. Support and secure conductors within switchboard in accordance with NFPA 70.

- E. Extend insulated equipment grounding cable to busway ground connection and support cable at intervals in vertical run.

3.5 IDENTIFICATION

- A. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."
- B. Switchboard Nameplates: Label each switchboard compartment with nameplate complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."
- C. Device Nameplates: Label each disconnecting and overcurrent protective device and each meter and control device mounted in compartment doors with nameplate complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."
- D. Service Equipment Label: Labeled, by qualified electrical testing laboratory recognized by authorities having jurisdiction, for use as service equipment for switchboards with one or more service disconnecting and overcurrent protective devices.

3.6 FIELD QUALITY CONTROL

- A. Field tests and inspections must be witnessed by Tenant.
- B. Tests and Inspections:
 - 1. Acceptance Testing:
 - a. Test insulation resistance for each switchboard bus, component, connecting supply, feeder, and control circuit. Open control and metering circuits within switchboard, and remove neutral connection to surge protection and other electronic devices prior to insulation test. Reconnect after test.
 - b. Test continuity of each circuit.
 - 2. Test ground-fault protection of equipment for service equipment in accordance with NFPA 70.
 - 3. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
 - 4. Correct malfunctioning units on-site where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.
 - 5. Test and adjust controls, remote monitoring, and safeties. Replace damaged and malfunctioning controls and equipment.
- C. Nonconforming Work:

1. Switchboard will be considered defective if it does not pass tests and inspections.
 2. Remove and replace defective units and retest.
- D. Collect, assemble, and submit test and inspection reports, including certified report that identifies switchboards included and that describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.
- E. Manufacturer Services:
1. Engage factory-authorized service representative to support field tests and inspections.

3.7 ADJUSTING

- A. Adjust moving parts and operable components to function smoothly, and lubricate as recommended by manufacturer.
- B. Set field-adjustable circuit-breaker trip ranges as indicated.

3.8 PROTECTION

- A. Temporary Heating: Apply temporary heat, to maintain temperature in accordance with manufacturer's published instructions, until switchboard is ready to be energized and placed into service.

END OF SECTION 262413

SECTION 262416 - PANELBOARDS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Power panelboards.
2. Lighting and appliance branch-circuit panelboards.
3. Load centers.
4. Electronic-grade panelboards.
5. Disconnecting and overcurrent protective devices.

B. Related Requirements:

1. Section 260010 "Supplemental Requirements for Electrical" for additional abbreviations, definitions, submittals, qualifications, testing agencies, and other Project requirements applicable to Work specified in this Section.
2. Section 260011 "Facility Performance Requirements for Electrical" for seismic-load, wind-load, acoustical, and other field conditions applicable to Work specified in this Section.

1.2 DEFINITIONS

- A. GFEP: Ground-fault equipment protection.
- B. MCCB: Molded-case circuit breaker.
- C. VPR: Voltage protection rating.

1.3 ACTION SUBMITTALS

A. Product Data:

1. Power panelboards.
2. Lighting and appliance branch-circuit panelboards.
3. Load centers.
4. Electronic-grade panelboards.
5. Disconnecting and overcurrent protective devices.
6. Include materials, switching and overcurrent protective devices, SPDs, accessories, and components indicated.
7. Include dimensions and manufacturers' technical data on features, performance, electrical characteristics, ratings, and finishes.

B. Shop Drawings: For each panelboard and related equipment.

1. Include dimensioned plans, elevations, sections, and details.
2. Show tabulations of installed devices with nameplates, conductor termination sizes, equipment features, and ratings.
3. Detail enclosure types including mounting and anchorage, environmental protection, knockouts, corner treatments, covers and doors, gaskets, hinges, and locks.
4. Detail bus configuration, current, and voltage ratings.
5. Short-circuit current rating of panelboards and overcurrent protective devices.
6. Include evidence of listing, by qualified electrical testing laboratory recognized by authorities having jurisdiction, for series rating of installed devices.
7. Include evidence of listing, by qualified electrical testing laboratory recognized by authorities having jurisdiction, for SPD as installed in panelboard.
8. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices and auxiliary components.
9. Include wiring diagrams for power, signal, and control wiring.
10. Key interlock scheme drawing and sequence of operations.
11. Include time-current coordination curves for each type and rating of overcurrent protective device included in panelboards. Submit on translucent log-log graft paper; include selectable ranges for each type of overcurrent protective device. Include Internet link for electronic access to downloadable PDF of coordination curves.

C. Field Quality-Control Submittals:

1. Field quality-control reports.

1.4 INFORMATIONAL SUBMITTALS

A. Panelboard Schedules: For installation in panelboards.

B. Manufacturers' Published Instructions: Record copy of official installation instructions issued to Installer by manufacturer for the following:

1. Recommended procedures for installing panelboards.
2. Recommended torque settings for bolted connections on panelboards.
3. Recommended temperature range for energizing panelboards.

C. Sample warranties.

1.5 CLOSEOUT SUBMITTALS

A. Warranty documentation.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Spare Parts: Furnish to Owner spare parts, for repairing panelboards, that are packaged with protective covering for storage on-site and identified with labels describing contents. Include the following:
 - 1. Keys: Two spares for each type of panelboard cabinet lock.
 - 2. Circuit Breakers Including GFCI and GFEP Types: Two spares for each panelboard.
 - 3. Fuses for Fused Switches: Equal to 10 percent of quantity installed for each size and type, but no fewer than three of each size and type.
 - 4. Fuses for Fused Power-Circuit Devices: Equal to 10 percent of quantity installed for each size and type, but no fewer than three of each size and type.
- B. Special Tools: Furnish to Owner proprietary equipment, keys, and software required to operate, maintain, repair, adjust, or implement future changes to panelboards, that are packaged with protective covering for storage on-site and identified with labels describing contents. Include the following:
 - 1. Accessory Set: Include tools and miscellaneous items required for overcurrent protective device test, inspection, maintenance, and operation.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Remove loose packing and flammable materials from inside panelboards; install temporary electric heating (250 W per panelboard) to prevent condensation.
- B. Handle and prepare panelboards for installation in accordance with NECA 407.

1.8 WARRANTY

- A. Special Installer Extended Warranty: Installer warrants that fabricated and installed panelboards perform in accordance with specified requirements and agrees to repair or replace components or products that fail to perform as specified within extended-warranty period.
 - 1. Extended-Warranty Period: Two years from date of Substantial Completion; full coverage for labor, materials, and equipment.

PART 2 - PRODUCTS

2.1 EXISTING PRODUCTS TO BE REMOVED AND RE-INSTALLED

- A. Basis for Pricing: SIEMENS AND SQUARE D.

- B. Description: Existing 200A panel.

2.2 PANELBOARDS AND LOAD CENTERS COMMON REQUIREMENTS

- A. Product Selection for Restricted Space: Drawings indicate maximum dimensions for panelboards including clearances between panelboards and adjacent surfaces and other items. Comply with indicated maximum dimensions.
- B. Electrical Components, Devices, and Accessories: Listed and labeled in accordance with NFPA 70, by qualified electrical testing agency recognized by authorities having jurisdiction, and marked for intended location and application.
- C. Comply with NEMA PB 1.
- D. Comply with NFPA 70.
- E. Enclosures: Surface-mounted, dead-front cabinets.
 - 1. Rated for environmental conditions at installed location.
 - a. Indoor Dry and Clean Locations: UL 50E, Type 1.
 - b. Outdoor Locations: UL 50E, Type 3R.
 - c. Indoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: UL 50E, Type 5.
 - 2. Height: 7 ft maximum.
 - 3. Front: Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box. Trims must cover live parts and may have no exposed hardware.
 - 4. Hinged Front Cover: Entire front trim hinged to box and with standard door within hinged trim cover. Trims must cover live parts and may have no exposed hardware.
 - 5. Skirt for Surface-Mounted Panelboards: Same gage and finish as panelboard front with flanges for attachment to panelboard, wall, and ceiling or floor.
 - 6. Gutter Extension and Barrier: Same gage and finish as panelboard enclosure; integral with enclosure body. Arrange to isolate individual panel sections.
 - 7. Finishes:
 - a. Panels and Trim: Steel and galvanized steel, factory finished immediately after cleaning and pretreating with manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat.
 - b. Back Boxes: Galvanized steel.
 - c. Fungus Proofing: Permanent fungicidal treatment for overcurrent protective devices and other components.

F. Incoming Mains:

1. Location: Bottom.
2. Main Breaker: Main lug interiors up to 400 A must be field convertible to main breaker.

G. Phase, Neutral, and Ground Buses:

1. Material: Tin-plated aluminum.
 - a. Plating must run entire length of bus.
 - b. Bus must be fully rated for entire length.
2. Interiors must be factory assembled into unit. Replacing switching and protective devices may not disturb adjacent units or require removing main bus connectors.
3. Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors; bonded to box.
4. Isolated Ground Bus: Adequate for branch-circuit isolated ground conductors; insulated from box.
5. Full-Sized Neutral: Equipped with full-capacity bonding strap for service entrance applications. Mount electrically isolated from enclosure.
6. Extra-Capacity Neutral Bus: Neutral bus rated 200 percent of phase bus and listed and labeled, by qualified electrical testing laboratory recognized by authorities having jurisdiction, as suitable for nonlinear loads in electronic-grade panelboards and others designated on Drawings. Connectors must be sized for double-sized or parallel conductors as indicated on Drawings.
7. Do not mount neutral bus in gutter.
8. Split Bus: Vertical buses divided into individual vertical sections.

H. Conductor Connectors: Suitable for use with conductor material and sizes.

1. Material: Tin-plated aluminum.
2. Terminations must allow use of 75 deg C rated conductors without derating.
3. Size: Lugs suitable for indicated conductor sizes, with additional gutter space, if required, for larger conductors.
4. Main and Neutral Lugs: Mechanical type, with lug on neutral bar for each pole in panelboard.
5. Ground Lugs and Bus-Configured Terminators: Mechanical type, with lug on bar for each pole in panelboard.

I. Future Devices: Panelboards or load centers must have mounting brackets, bus connections, filler plates, and necessary appurtenances required for future installation of devices.

1. Percentage of Future Space Capacity: 10 percent.

J. Panelboard Short-Circuit Current Rating:

1. Rated for series-connected system with integral or remote upstream overcurrent protective devices and labeled by qualified electrical testing laboratory recognized by authorities having jurisdiction. Include label or manual with size and type of allowable upstream and branch devices listed and labeled, by qualified electrical testing laboratory recognized by authorities having jurisdiction, for series-connected short-circuit rating.
 - a. Panelboards rated 240 V or less must have short-circuit ratings as shown on Drawings, but not less than 10 000 A(rms) symmetrical.
 - b. Panelboards rated above 240 V and less than 600 V must have short-circuit ratings as shown on Drawings, but not less than 14 000 A(rms) symmetrical.
 2. Fully rated to interrupt symmetrical short-circuit current available at terminals. Assembly listed, by qualified electrical testing laboratory recognized by authorities having jurisdiction, for 100 percent interrupting capacity.
 - a. Panelboards and overcurrent protective devices rated 240 V or less must have short-circuit ratings as shown on Drawings, but not less than 10 000 A(rms) symmetrical.
 - b. Panelboards and overcurrent protective devices rated above 240 V and less than 600 V must have short-circuit ratings as shown on Drawings, but not less than 14 000 A(rms) symmetrical.
- K. Surge Suppression: Factory installed as integral part of indicated panelboards, complying with UL 1449 SPD Type 2.

2.3 POWER PANELBOARDS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. ABB, Electrification Business.
 2. ESL Power Systems, Inc.
 3. Eaton.
 4. Mersen USA.
 5. Siemens Industry, Inc., Energy Management Division.
 6. Square D; Schneider Electric USA.
- B. Listing Criteria: NEMA PB 1, distribution type.
- C. Mains: Lugs only.
- D. Branch Overcurrent Protective Devices for Circuit-Breaker Frame Sizes 125 A and Smaller: Bolt-on circuit breakers.
- E. Branch Overcurrent Protective Devices for Circuit-Breaker Frame Sizes Larger Than 125 A: Bolt-on circuit breakers.

- F. Branch Overcurrent Protective Devices: Fused switches.
- G. Contactors in Main Bus: NEMA ICS 2, Class A, mechanically held, general-purpose controller, with same short-circuit interrupting rating as panelboard.

2.4 LIGHTING AND APPLIANCE BRANCH-CIRCUIT PANELBOARDS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. ABB, Electrification Business.
 - 2. Bender Inc.; Bender GmbH & Co. KG.
 - 3. Eaton.
 - 4. Siemens Industry, Inc., Energy Management Division.
 - 5. Square D; Schneider Electric USA.
- B. Listing Criteria: NEMA PB 1, lighting and appliance branch-circuit type.
- C. Mains: Circuit breaker or lug only.
- D. Branch Overcurrent Protective Devices: Bolt-on circuit breakers, replaceable without disturbing adjacent units.
- E. Contactors in Main Bus: NEMA ICS 2, Class A, mechanically held, general-purpose controller, with same short-circuit interrupting rating as panelboard.

2.5 DISCONNECTING AND OVERCURRENT PROTECTIVE DEVICES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. ABB, Electrification Business.
 - 2. Eaton.
 - 3. Siemens Industry, Inc., Energy Management Division.
 - 4. Square D; Schneider Electric USA.
- B. MCCB: Comply with UL 489, with interrupting capacity to meet available fault currents.
 - 1. Thermal-Magnetic Circuit Breakers:
 - a. Inverse time-current element for low-level overloads.
 - b. Instantaneous magnetic trip element for short circuits.
 - c. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.
 - 2. Adjustable Instantaneous-Trip Circuit Breakers: Magnetic trip element with front-mounted, field-adjustable trip setting.
 - 3. Electronic Trip Circuit Breakers:

- a. RMS sensing.
 - b. Field-replaceable rating plug or electronic trip.
 - c. Digital display of settings, trip targets, and indicated metering displays.
 - d. Multi-button keypad to access programmable functions and monitored data.
 - e. Ten-event, trip-history log. Each trip event must be recorded with type, phase, and magnitude of fault that caused trip.
 - f. Integral test jack for connection to portable test set or laptop computer.
 - g. Field-Adjustable Settings:
 - 1) Instantaneous trip.
 - 2) Long- and short-time pickup levels.
 - 3) Long and short time adjustments.
 - 4) Ground-fault pickup level, time delay, and I squared T response.
4. Current-Limiting Circuit Breakers: Frame sizes 400 A and smaller; let-through ratings less than NEMA FU 1, RK-5.
5. GFCI Circuit Breakers: Single- and double-pole configurations with Class A ground-fault protection (6 mA trip).
6. GFEP Circuit Breakers: Class B ground-fault protection (30 mA trip).
7. Arc-Fault Circuit Interrupter Circuit Breakers: Comply with UL 1699; 120/240V, single-pole configuration.
8. Subfeed Circuit Breakers: Vertically mounted.
9. MCCB Features and Accessories:
- a. Standard frame sizes, trip ratings, and number of poles.
 - b. Breaker handle indicates tripped status.
 - c. UL listed for reverse connection without restrictive line or load ratings.
 - d. Lugs: Compression style, suitable for number, size, trip ratings, and conductor materials.
 - e. Application Listing: Appropriate for application; Type SWD for switching fluorescent lighting loads; Type HID for feeding fluorescent and HID lighting circuits.
 - f. Ground-Fault Protection: Integrally mounted relay and trip unit with adjustable pickup and time-delay settings, push-to-test feature, and ground-fault indicator.
 - g. Communication Capability: Circuit-breaker-mounted communication module with functions and features compatible with power monitoring and control system specified in Section 260913 "Electrical Power Monitoring and Control."
 - h. Handle Padlocking Device: Fixed attachment, for locking circuit-breaker handle in on or off position.
 - i. Handle Clamp: Loose attachment, for holding circuit-breaker handle in on position.
 - j. Undervoltage Trip: Set to operate at 35 to 75 percent of rated voltage without intentional time delay.
 - k. Rating Plugs: Three-pole breakers with ampere ratings greater than 150 A must have interchangeable rating plugs or electronic adjustable trip units.

- I. Auxiliary Contacts: One, SPDT switch with "a" and "b" contacts; "a" contacts mimic circuit-breaker contacts and "b" contacts operate in reverse of circuit-breaker contacts.
 - m. Alarm Switch: Single-pole, normally open contact that actuates only when circuit breaker trips.
 - n. Key Interlock Kit: Externally mounted to prohibit circuit-breaker operation; key must be removable only when circuit breaker is in off position.
 - o. Zone-Selective Interlocking: Integral with electronic trip unit; for interlocking ground-fault protection function with other upstream or downstream devices.
 - p. Multipole units enclosed in single housing with single handle or factory assembled to operate as single unit.
- C. Fused Switch: NEMA KS 1, Type HD; clips to accommodate specified fuses; lockable handle.
 - 1. Fuses and Spare-Fuse Cabinet: Comply with requirements specified in Section 262813 "Fuses."
 - 2. Fused Switch Features and Accessories:
 - a. Standard ampere ratings and number of poles.
 - b. Mechanical cover interlock with manual interlock override, to prevent opening of cover when switch is in on position. Interlock must prevent switch from being turned on with cover open. Operating handle must have lock-off means with provisions for three padlocks.
 - c. Auxiliary Contacts: One normally open and normally closed contact(s) that operate with switch handle operation.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify actual conditions with field measurements prior to ordering panelboards to verify that equipment fits in allocated space in, and comply with, minimum required clearances specified in NFPA 70.
- B. Receive, inspect, handle, and store panelboards in accordance with NECA 407.
- C. Examine panelboards before installation. Reject panelboards that are damaged, rusted, or have been subjected to water saturation.
- D. Examine elements and surfaces to receive panelboards for compliance with installation tolerances and other conditions affecting performance of the Work.
- E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Comply with manufacturer's published instructions.
- B. Reference Standards:
 - 1. Panelboards: Unless more stringent requirements are specified in Contract Documents or manufacturers' published instructions, comply with NECA 407.
 - 2. Consult Architect for resolution of conflicting requirements.
- C. Special Techniques:
 - 1. Equipment Mounting:
 - a. Install panelboards on cast-in-place concrete equipment base(s). Comply with requirements for equipment bases and foundations specified in Section 033000 "Cast-in-Place Concrete."
 - b. Attach panelboard to vertical finished or structural surface behind panelboard.
 - c. Mount surface-mounted panelboards to steel slotted supports 5/8 inch in depth. Orient steel slotted supports vertically.
 - d. Comply with requirements for seismic control devices specified in Section 260548.16 "Seismic Controls for Electrical Systems."
 - 2. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving parts from panelboards.
 - 3. Comply with mounting and anchoring requirements specified in Section 260548.16 "Seismic Controls for Electrical Systems."
 - 4. Mount top of trim 7.5 ft above finished floor unless otherwise indicated.
 - 5. Mount panelboard cabinet plumb and rigid without distortion of box.
 - 6. Mount recessed panelboards with fronts uniformly flush with wall finish and mating with back box.
 - 7. Install overcurrent protective devices and controllers not already factory installed.
 - a. Set field-adjustable, circuit-breaker trip ranges.
 - b. Tighten bolted connections and circuit breaker connections using calibrated torque wrench or torque screwdriver in accordance with manufacturer's published instructions.
 - 8. Make grounding connections and bond neutral for services and separately derived systems to ground. Make connections to grounding electrodes, separate grounds for isolated ground bars, and connections to separate ground bars.
 - 9. Install filler plates in unused spaces.
 - 10. Stub four 1 inch empty conduits from panelboard into accessible ceiling space or space designated to be ceiling space in future. Stub four 1 inch empty conduits into raised floor space or below slab not on grade.
 - 11. Arrange conductors in gutters into groups and bundle and wrap with wire ties.
 - 12. Mount spare fuse cabinet in accessible location.

D. Interfaces with Other Work:

1. Coordinate layout and installation of panelboards and components with other construction that penetrates walls or is supported by them, including electrical and other types of equipment, raceways, piping, encumbrances to workspace clearance requirements, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

3.3 IDENTIFICATION

- A. Identify field-installed conductors, interconnecting wiring, and components; install warning signs complying with requirements in Section 260553 "Identification for Electrical Systems."
- B. Panelboard Nameplates: Label each panelboard with nameplate complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."
- C. Device Nameplates: Label each branch circuit device in power panelboards with nameplate complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."
- D. Install warning signs complying with requirements in Section 260553 "Identification for Electrical Systems" identifying source of remote circuit.
- E. Panelboard Label: Manufacturer's name and trademark, voltage, amperage, number of phases, and number of poles must be located on interior of panelboard door.
- F. Breaker Labels: Faceplate must list current rating, UL and IEC certification standards, and AIC rating.
- G. Circuit Directory:
 1. Provide directory card inside panelboard door, mounted in transparent card holder.
 - a. Circuit directory must identify specific purpose with detail sufficient to distinguish it from other circuits.
 2. Provide computer-generated circuit directory mounted inside panelboard door with transparent plastic protective cover.
 - a. Circuit directory must identify specific purpose with detail sufficient to distinguish it from other circuits.
 3. Create directory to indicate installed circuit loads; incorporate Owner's final room designations. Obtain approval before installing. Handwritten directories are not acceptable. Install directory inside panelboard door.

3.4 FIELD QUALITY CONTROL

A. Acceptance Testing Preparation:

1. Test insulation resistance for each panelboard bus, component, connecting supply, feeder, and control circuit.
2. Test continuity of each circuit.

B. Field tests and inspections must be witnessed by authorities having jurisdiction.

C. Tests and Inspections:

1. Perform each visual and mechanical inspection and electrical test for low-voltage air circuit breakers stated in NETA ATS, Paragraph 7.6 Circuit Breakers. Perform optional tests. Certify compliance with test parameters.
2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.
3. Perform the following infrared scan tests and inspections and prepare reports:
 - a. Initial Infrared Scanning: After Substantial Completion, but not more than 60 days after Final Acceptance, perform infrared scan of each panelboard. Remove front panels so joints and connections are accessible to portable scanner.
 - b. Follow-up Infrared Scanning: Perform additional follow-up infrared scan of each panelboard 11 months after date of Substantial Completion.
 - c. Instruments and Equipment:
 - 1) Use infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.

D. Nonconforming Work:

1. Panelboards will be considered defective if they do not pass tests and inspections.
2. Remove and replace defective units and retest.

E. Collect, assemble, and submit test and inspection reports, including certified report that identifies panelboards included and that describes scanning results, with comparisons of two scans. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

F. Manufacturer Services:

1. Engage factory-authorized service representative to support field tests and inspections.

3.5 ADJUSTING

A. Adjust moving parts and operable components to function smoothly, and lubricate as recommended by manufacturer.

- B. Set field-adjustable circuit-breaker trip ranges as indicated.

3.6 PROTECTION

- A. Temporary Heating: Prior to energizing panelboards, apply temporary heat to maintain temperature in accordance with manufacturer's published instructions.

END OF SECTION 262416

SECTION 262813 - FUSES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Cartridge fuses rated 600 V ac and less for use in the following:
 - a. Control circuits.
 - b. Motor-control centers.
 - c. Panelboards.
 - d. Switchboards.
 - e. Enclosed controllers.
 - f. Enclosed switches.
 - 2. Spare-fuse cabinets.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for spare-fuse cabinets. Include the following for each fuse type indicated:
 - 1. Ambient Temperature Adjustment Information: If ratings of fuses have been adjusted to accommodate ambient temperatures, provide list of fuses with adjusted ratings.
 - a. For each fuse having adjusted ratings, include location of fuse, original fuse rating, local ambient temperature, and adjusted fuse rating.
 - b. Provide manufacturer's technical data on which ambient temperature adjustment calculations are based.
 - 2. Dimensions and manufacturer's technical data on features, performance, electrical characteristics, and ratings.
 - 3. Current-limitation curves for fuses with current-limiting characteristics.
 - 4. Time-current coordination curves (average melt) and current-limitation curves (instantaneous peak let-through current) for each type and rating of fuse. Submit in PDF format.

5. Coordination charts and tables and related data.
6. Fuse sizes for elevator feeders and elevator disconnect switches.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For fuses to include in emergency, operation, and maintenance manuals. Include the following:
 1. Ambient temperature adjustment information.
 2. Current-limitation curves for fuses with current-limiting characteristics.
 3. Time-current coordination curves (average melt) and current-limitation curves (instantaneous peak let-through current) for each type and rating of fuse used on the Project. Submit in PDF format.
 4. Coordination charts and tables and related data.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 1. Fuses: Equal to 10 percent of quantity installed for each size and type, but no fewer than three of each size and type.

1.6 FIELD CONDITIONS

- A. Where ambient temperature to which fuses are directly exposed is less than 40 deg F or more than 100 deg F, apply manufacturer's ambient temperature adjustment factors to fuse ratings.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain fuses, for use within a specific product or circuit, from single source from single manufacturer.

2.2 CARTRIDGE FUSES

- A. Characteristics: NEMA FU 1, current-limiting, nonrenewable cartridge fuses with voltage ratings consistent with circuit voltages.
 1. Type RK-1: 600-V, zero- to 600-A rating, 200 kAIC, time delay.

- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. Comply with NEMA FU 1 for cartridge fuses.
- D. Comply with NFPA 70.
- E. Coordinate fuse ratings with utilization equipment nameplate limitations of maximum fuse size and with system short-circuit current levels.

2.3 SPARE-FUSE CABINET

- A. Characteristics: Wall-mounted steel unit with full-length, recessed piano-hinged door and key-coded cam lock and pull.
 - 1. Size: Adequate for storage of spare fuses specified with 15 percent spare capacity minimum.
 - 2. Finish: Gray, baked enamel.
 - 3. Identification: "SPARE FUSES" in 1-1/2-inch- high letters on exterior of door.
 - 4. Fuse Pullers: For each size of fuse, where applicable and available, from fuse manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine fuses before installation. Reject fuses that are moisture damaged or physically damaged.
- B. Examine holders to receive fuses for compliance with installation tolerances and other conditions affecting performance, such as rejection features.
- C. Examine utilization equipment nameplates and installation instructions. Install fuses of sizes and with characteristics appropriate for each piece of equipment.
- D. Evaluate ambient temperatures to determine if fuse rating adjustment factors must be applied to fuse ratings.
- E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 FUSE APPLICATIONS

- A. Cartridge Fuses:
 - 1. Service Entrance: Class RK1, time delay.

2. Feeders: Class RK1, time delay.
3. Motor Branch Circuits: Class RK1, time delay.
4. Power Electronics Circuits: Class J, high speed.
5. Other Branch Circuits: Class RK1, time delay.
6. Control Transformer Circuits: Class CC, time delay, control transformer duty.
7. Provide open-fuse indicator fuses or fuse covers with open fuse indication.

3.3 INSTALLATION

- A. Install fuses in fusible devices. Arrange fuses so rating information is readable without removing fuse.
- B. Install spare-fuse cabinet(s) in location shown on the Drawings or as indicated in the field by Owner.

3.4 IDENTIFICATION

- A. Install labels complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems" and indicating fuse replacement information inside of door of each fused switch and adjacent to each fuse block, socket, and holder.

END OF SECTION 262813

SECTION 262816 - ENCLOSED SWITCHES AND CIRCUIT BREAKERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Fusible switches.
2. Nonfusible switches.
3. Molded-case circuit breakers (MCCBs).
4. Molded-case switches.
5. Enclosures.

B. Related Requirements:

1. Section 260010 "Supplemental Requirements for Electrical" for additional abbreviations, definitions, submittals, qualifications, testing agencies, and other Project requirements applicable to Work specified in this Section.
2. Section 260011 "Facility Performance Requirements for Electrical" for seismic-load, wind-load, acoustical, and other field conditions applicable to Work specified in this Section.

1.2 DEFINITIONS

- A. GFEP: Ground-fault circuit-interrupter for equipment protection.
- B. GFLS: Ground-fault circuit-interrupter for life safety.
- C. SPDT: Single pole, double throw.

1.3 ACTION SUBMITTALS

A. Product Data:

1. For each type of enclosed switch, circuit breaker, accessory, and component indicated. Include nameplate ratings, dimensioned elevations, sections, weights, and manufacturers' technical data on features, performance, electrical characteristics, ratings, accessories, and finishes.
2. Enclosure types and details for types other than UL 50E, Type 1.
3. Current and voltage ratings.
4. Short-circuit current ratings (interrupting and withstand, as appropriate).
5. Include evidence of qualified electrical testing laboratory listing for series rating of installed devices.

6. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices, accessories, and auxiliary components.
 7. Include time-current coordination curves (average melt) for each type and rating of overcurrent protective device; include selectable ranges for each type of overcurrent protective device. Provide in PDF electronic format.
 - B. Shop Drawings: For enclosed switches and circuit breakers.
 1. Include plans, elevations, sections, details, and attachments to other work.
 2. Include wiring diagrams for power, signal, and control wiring.
 - C. Field Quality-Control Submittals:
 1. Field quality-control reports.
- 1.4 INFORMATIONAL SUBMITTALS
- A. Sample warranties.
- 1.5 CLOSEOUT SUBMITTALS
- A. Warranty documentation.
- 1.6 MAINTENANCE MATERIAL SUBMITTALS
- A. Spare Parts: Furnish to Owner spare parts, for repairing enclosed switches and circuit breakers, that are packaged with protective covering for storage on-site and identified with labels describing contents. Include the following:
 1. Fuses: Equal to 10 percent of quantity installed for each size and type, but no fewer than three of each size and type.
 2. Fuse Pullers: Two for each size and type.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS

- A. Source Limitations: Obtain products from single manufacturer.
- B. Product Selection for Restricted Space: Drawings indicate maximum dimensions for enclosed switches and circuit breakers, including clearances between enclosures, and adjacent surfaces and other items. Comply with indicated maximum dimensions.

- C. Electrical Components, Devices, and Accessories: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.

2.2 FUSIBLE SWITCHES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. ABB, Electrification Business.
2. Eaton.
3. Siemens Industry, Inc., Energy Management Division.
4. Square D; Schneider Electric USA.

- B. Type HD, Heavy Duty:

1. Single throw.
2. Three pole.
3. 600 V(ac).
4. 200 A and smaller.
5. UL98 and NEMA KS1, horsepower rated, with clips or bolt pads to accommodate specified fuses.
6. Lockable handle with capability to accept three padlocks, and interlocked with cover in closed position.

- C. Accessories:

1. Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors.
2. Neutral Kit: Internally mounted; insulated, capable of being grounded and bonded; labeled for copper and aluminum neutral conductors.
3. Isolated Ground Kit: Internally mounted; insulated, labeled for copper and aluminum neutral conductors.
4. Class R Fuse Kit: Provides rejection of other fuse types when Class R fuses are specified.
5. Service-Rated Switches: Labeled for use as service equipment.
6. Hookstick Handle: Allows use of hookstick to operate handle.
7. Auxiliary Contact Kit: One NO/NC (Form "C") auxiliary contact(s), arranged to activate before switch blades open. Contact rating - 120 V(ac).
8. Lugs: Mechanical type, suitable for number, size, and conductor material.

2.3 NONFUSIBLE SWITCHES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. ABB, Electrification Business.
2. Eaton.

3. [Siemens Industry, Inc., Energy Management Division.](#)
 4. [Square D; Schneider Electric USA.](#)
- B. Type GD, General Duty, Three Pole, Single Throw, 240 V(ac), 600 A and Smaller: UL 98 and NEMA KS 1, horsepower rated, lockable handle with capability to accept two padlocks, and interlocked with cover in closed position.
- C. Type HD, Heavy Duty, Three Pole, Single Throw, 600 V(ac), 1200 A and Smaller: UL 98 and NEMA KS 1, horsepower rated, lockable handle with capability to accept three padlocks, and interlocked with cover in closed position.
- D. Accessories:
1. Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors.
 2. Neutral Kit: Internally mounted; insulated, capable of being grounded and bonded; labeled for copper and aluminum neutral conductors.
 3. Isolated Ground Kit: Internally mounted; insulated, labeled for copper and aluminum neutral conductors.
 4. Class R Fuse Kit: Provides rejection of other fuse types when Class R fuses are specified.
 5. Service-Rated Switches: Labeled for use as service equipment.
 6. Hookstick Handle: Allows use of hookstick to operate handle.
 7. Auxiliary Contact Kit: One NO/NC (Form "C") auxiliary contact(s), arranged to activate before switch blades open. Contact rating - 120 V(ac).
 8. Lugs: Mechanical type, suitable for number, size, and conductor material.

2.4 MOLDED-CASE CIRCUIT BREAKERS

- A. [Manufacturers:](#) Subject to compliance with requirements, provide products by one of the following:
1. [ABB, Electrification Business.](#)
 2. [Eaton.](#)
 3. [Siemens Industry, Inc., Energy Management Division.](#)
 4. [Square D; Schneider Electric USA.](#)
- B. Circuit breakers must be constructed using glass-reinforced insulating material. Current carrying components must be completely isolated from handle and accessory mounting area.
- C. Circuit breakers must have toggle operating mechanism with common tripping of all poles, which provides quick-make, quick-break contact action. Circuit-breaker handle must be over center, be trip free, and reside in tripped position between on and off to provide local trip indication. Circuit-breaker escutcheon must be clearly marked on and off in addition to providing international I/O markings. Equip circuit breaker with push-to-trip button, located on face of circuit breaker to mechanically operate circuit-breaker tripping mechanism for maintenance and testing purposes.

- D. Maximum ampere rating and UL, IEC, or other certification standards with applicable voltage systems and corresponding interrupting ratings must be clearly marked on face of circuit breaker. Circuit breakers must be 100 percent rated. Circuit breaker/circuit breaker, Fuse/circuit breaker combinations for series connected interrupting ratings must be listed by UL as recognized component combinations. Series rated combination used must be marked on end-use equipment along with statement "Caution - Series Rated System. Amps Available. Identical Replacement Component Required."
- E. MCCBs must be equipped with device for locking in isolated position.
- F. Lugs must be suitable for 75 deg C rated wire.
- G. Standard: Comply with UL 489 with required interrupting capacity for available fault currents.
- H. Thermal-Magnetic Circuit Breakers: Inverse time-current thermal element for low-level overloads and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.
- I. Adjustable, Instantaneous-Trip Circuit Breakers: Magnetic trip element with front-mounted, field-adjustable trip setting.
- J. Electronic Trip Circuit Breakers: Field-replaceable rating plug, RMS sensing, with the following field-adjustable settings:
 - 1. Instantaneous trip.
 - 2. Long- and short-time pickup levels.
 - 3. Long- and short-time time adjustments.
 - 4. Ground-fault pickup level, time delay, and I-squared t response.
- K. Current-Limiting Circuit Breakers: Frame sizes 400 A and smaller, and let-through ratings less than NEMA FU 1, RK-5.
- L. Integrally Fused Circuit Breakers: Thermal-magnetic trip element with integral limiter-style fuse listed for use with circuit breaker and trip activation on fuse opening or on opening of fuse compartment door.
- M. GFLS Circuit Breakers: Single- and two-pole configurations with Class A ground-fault protection (6 mA trip).
- N. GFEP Circuit Breakers: With Class B ground-fault protection (30 mA trip).
- O. Features and Accessories:
 - 1. Standard frame sizes, trip ratings, and number of poles.
 - 2. Application Listing: Appropriate for application; Type SWD for switching fluorescent lighting loads; Type HID for feeding fluorescent and high-intensity discharge lighting circuits.
 - 3. Shunt Trip: Trip coil energized from separate circuit, with coil-clearing contact.

4. Alarm Switch: One NO contact that operates only when circuit breaker has tripped.
5. Lugs: Mechanical type, suitable for number, size, trip ratings, and conductor material.
6. Ground-Fault Protection: Comply with UL 1053; integrally mounted, self-powered type with mechanical ground-fault indicator; relay with adjustable pickup and time-delay settings, push-to-test feature, internal memory, and shunt trip unit; and three-phase, zero-sequence current transformer/sensor.
7. Communication Capability: Circuit-breaker-mounted communication module with functions and features compatible with power monitoring and control system, specified in Section 260913 "Electrical Power Monitoring and Control."

2.5 MOLDED-CASE SWITCHES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. ABB, Electrification Business.
 2. Eaton.
 3. Siemens Industry, Inc., Energy Management Division.
 4. Square D; Schneider Electric USA.
- B. Description: MCCB with fixed, high-set instantaneous trip only, and short-circuit withstand rating equal to equivalent breaker frame size interrupting rating.
- C. Standard: Comply with UL 489 with interrupting capacity to comply with available fault currents.
- D. Features and Accessories:
 1. Standard frame sizes and number of poles.
 2. Lugs:
 - a. Mechanical type, suitable for number, size, trip ratings, and conductor material.
 - b. Lugs must be suitable for 75 deg C rated wire.
 3. Ground-Fault Protection: Comply with UL 1053; remote-mounted and powered type with mechanical ground-fault indicator; relay with adjustable pickup and time-delay settings, push-to-test feature, internal memory, and shunt trip unit; and three-phase, zero-sequence current transformer/sensor.
 4. Shunt Trip: Trip coil energized from separate circuit, with coil-clearing contact.

2.6 ENCLOSURES

- A. Enclosed Switches and Circuit Breakers: UL 489, NEMA KS 1, UL 50E, and UL 50, to comply with environmental conditions at installed location.

- B. Enclosure Finish: Enclosure must be gray baked enamel paint, electrodeposited on cleaned, phosphatized steel (UL 50E Type 1), a brush finish on Type 304 stainless steel (UL 50E Type 4-4X stainless steel).
- C. Conduit Entry: UL 50E Types 4, 4X, and 12 enclosures may not contain knockouts. UL 50E Types 7 and 9 enclosures must be provided with threaded conduit openings in both endwalls.
- D. Operating Mechanism: Circuit-breaker operating handle must be directly operable through front cover of enclosure (UL 50E Type 1), directly operable through dead front trim of enclosure (UL 50E Type 3R). Cover interlock mechanism must have externally operated override. Override may not permanently disable interlock mechanism, which must return to locked position once override is released. Tool used to override cover interlock mechanism must not be required to enter enclosure in order to override interlock.
- E. Enclosures designated as UL 50E Type 4, 4X stainless steel, 12, or 12K must have dual cover interlock mechanism to prevent unintentional opening of enclosure cover when circuit breaker is ON and to prevent turning circuit breaker ON when enclosure cover is open.
- F. UL 50E Type 7/9 enclosures must be furnished with breather and drain kit to allow their use in outdoor and wet location applications.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine elements and surfaces to receive enclosed switches and circuit breakers for compliance with installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
 - 1. Commencement of work will indicate Installer's acceptance of areas and conditions as satisfactory.

3.2 SELECTION OF ENCLOSURES

- A. Indoor, Dry and Clean Locations: UL 50E, Type 1.
- B. Outdoor Locations: UL 50E, Type 3R.
- C. Other Wet or Damp, Indoor Locations: UL 50E, Type 4.
- D. Indoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: UL 50E, Type 12.

3.3 INSTALLATION

- A. Comply with manufacturer's published instructions.
- B. Special Techniques:
 - 1. Coordinate layout and installation of switches, circuit breakers, and components with equipment served and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.
 - 2. Install individual wall-mounted switches and circuit breakers with tops at uniform height unless otherwise indicated.
 - 3. Temporary Lifting Provisions: Remove temporary lifting of eyes, channels, and brackets and temporary blocking of moving parts from enclosures and components.
 - 4. Install fuses in fusible devices.

3.4 IDENTIFICATION

- A. Comply with requirements in Section 260553 "Identification for Electrical Systems."
 - 1. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs.
 - 2. Label each enclosure with engraved metal or laminated-plastic nameplate.

3.5 FIELD QUALITY CONTROL

- A. Tests and Inspections for Switches:
 - 1. Visual and Mechanical Inspection:
 - a. Inspect physical and mechanical condition.
 - b. Inspect anchorage, alignment, grounding, and clearances.
 - c. Verify that unit is clean.
 - d. Verify blade alignment, blade penetration, travel stops, and mechanical operation.
 - e. Verify that fuse sizes and types match the Specifications and Drawings.
 - f. Verify that each fuse has adequate mechanical support and contact integrity.
 - g. Inspect bolted electrical connections for high resistance using one of the following methods:
 - 1) Use low-resistance ohmmeter.
 - a) Compare bolted connection resistance values to values of similar connections. Investigate values that deviate from those of similar bolted connections by more than 50 percent of lowest value.

- 2) Verify tightness of accessible bolted electrical connections by calibrated torque-wrench method in accordance with manufacturer's published data or NETA ATS Table 100.12.
 - a) Bolt-torque levels must be in accordance with manufacturer's published data. In absence of manufacturer's published data, use NETA ATS Table 100.12.
 - h. Verify that operation and sequencing of interlocking systems is as described in the Specifications and shown on Drawings.
 - i. Verify correct phase barrier installation.
 - j. Verify lubrication of moving current-carrying parts and moving and sliding surfaces.
2. Electrical Tests:
- a. Perform resistance measurements through bolted connections with low-resistance ohmmeter. Compare bolted connection resistance values to values of similar connections. Investigate values that deviate from adjacent poles or similar switches by more than 50 percent of lowest value.
 - b. Measure contact resistance across each switchblade fuseholder. Drop values may not exceed high level of manufacturer's published data. If manufacturer's published data are not available, investigate values that deviate from adjacent poles or similar switches by more than 50 percent of lowest value.
 - c. Perform insulation-resistance tests for one minute on each pole, phase-to-phase and phase-to-ground with switch closed, and across each open pole. Apply voltage in accordance with manufacturer's published data. In absence of manufacturer's published data, use Table 100.1 from NETA ATS. Investigate values of insulation resistance less than those published in Table 100.1 or as recommended in manufacturer's published data.
 - d. Measure fuse resistance. Investigate fuse-resistance values that deviate from each other by more than 15 percent.
 - e. Perform ground fault test in accordance with NETA ATS Section 7.14 "Ground Fault Protection Systems, Low-Voltage."

B. Tests and Inspections for Molded-Case Circuit Breakers:

1. Visual and Mechanical Inspection:
- a. Verify that equipment nameplate data are as described in the Specifications and shown on Drawings.
 - b. Inspect physical and mechanical condition.
 - c. Inspect anchorage, alignment, grounding, and clearances.
 - d. Verify that unit is clean.
 - e. Operate circuit breaker to ensure smooth operation.
 - f. Inspect bolted electrical connections for high resistance using one of the following methods:

- 1) Use low-resistance ohmmeter.
 - a) Compare bolted connection resistance values to values of similar connections. Investigate values that deviate from those of similar bolted connections by more than 50 percent of lowest value.
 - 2) Verify tightness of accessible bolted electrical connections by calibrated torque-wrench method in accordance with manufacturer's published data or NETA ATS Table 100.12.
 - a) Bolt-torque levels must be in accordance with manufacturer's published data. In absence of manufacturer's published data, use NETA ATS Table 100.12.
 - g. Inspect operating mechanism, contacts, and chutes in unsealed units.
2. Electrical Tests:
- a. Perform resistance measurements through bolted connections with low-resistance ohmmeter. Compare bolted connection resistance values to values of similar connections. Investigate values that deviate from adjacent poles or similar switches by more than 50 percent of lowest value.
 - b. Perform insulation-resistance tests for one minute on each pole, phase-to-phase and phase-to-ground with circuit breaker closed, and across each open pole. Apply voltage in accordance with manufacturer's published data. In absence of manufacturer's published data, use Table 100.1 from NETA ATS. Investigate values of insulation resistance less than those published in Table 100.1 or as recommended in manufacturer's published data.
 - c. Perform contact/pole resistance test. Drop values may not exceed high level of manufacturer's published data. If manufacturer's published data are not available, investigate values that deviate from adjacent poles or similar switches by more than 50 percent of lowest value.
 - d. Perform insulation resistance tests on control wiring with respect to ground. Applied potential must be 500 V(dc) for 300 V rated cable and 1000 V(dc) for 600 V rated cable. Test duration must be one minute. For units with solid state components, follow manufacturer's recommendation. Insulation resistance values may be no less than 2 M Ω .
 - e. Determine the following by primary current injection:
 - 1) Long-time pickup and delay. Pickup values must be as specified. Trip characteristics may not exceed manufacturer's published time-current characteristic tolerance band, including adjustment factors.
 - 2) Short-time pickup and delay. Short-time pickup values must be as specified. Trip characteristics may not exceed manufacturer's published time-current characteristic tolerance band, including adjustment factors.
 - 3) Ground-fault pickup and time delay. Ground-fault pickup values must be as specified. Trip characteristics may not exceed manufacturer's published time-current characteristic tolerance band, including adjustment factors.

- 4) Instantaneous pickup. Instantaneous pickup values must be as specified and within manufacturer's published tolerances.
 - f. Test functionality of trip unit by means of primary current injection. Pickup values and trip characteristics must be as specified and within manufacturer's published tolerances.
 - g. Perform minimum pickup voltage tests on shunt trip and close coils in accordance with manufacturer's published data. Minimum pickup voltage of shunt trip and close coils must be as indicated by manufacturer.
 - h. Verify correct operation of auxiliary features such as trip and pickup indicators; zone interlocking; electrical close and trip operation; trip-free, anti-pump function; and trip unit battery condition. Reset trip logs and indicators. Investigate units that do not function as designed.
 - i. Verify operation of charging mechanism. Investigate units that do not function as designed.
 - 3. Test and adjust controls, remote monitoring, and safeties.
 - C. Nonconforming Work:
 - 1. Enclosed switches and circuit breakers will be considered defective if they do not pass tests and inspections.
 - 2. Remove and replace defective units and retest.
 - D. Collect, assemble, and submit test and inspection reports.
 - 1. Test procedures used.
 - 2. Include identification of each enclosed switch and circuit breaker tested and describe test results.
 - 3. List deficiencies detected, remedial action taken, and observations after remedial action.
- 3.6 ADJUSTING
- A. Adjust moving parts and operable components to function smoothly, and lubricate as recommended by manufacturer.
- 3.7 PROTECTION
- A. After installation, protect enclosed switches and circuit breakers from construction activities. Remove and replace items that are contaminated, defaced, damaged, or otherwise caused to be unfit for use prior to acceptance by Owner.

3.8 MAINTENANCE

- A. Infrared Scanning of Enclosed Switches and Breakers: Two months after Substantial Completion, perform infrared scan of joints and connections. Remove covers so joints and connections are accessible to portable scanner. Take visible light photographs at same locations and orientations as infrared scans for documentation to ensure follow-on scans match same conditions for valid comparison.
1. Instruments and Equipment: Use infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.
 2. Follow-up Infrared Scanning: Perform two follow-up infrared scans of enclosed switches and breakers, one at four months and another at 11 months after Substantial Completion.
 3. Instrument: Use infrared-scanning device designed to measure temperature or to detect significant deviations from normal values. Provide documentation of device calibration.
 4. Report: Prepare certified report that identifies units checked and that describes scanning results. Include notation of deficiencies detected, remedial actions taken, and scanning observations after remedial action.

END OF SECTION 262816

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SECTION 263213.16 - GAS-ENGINE-DRIVEN GENERATOR SETS

TIPS:

To view non-printing **Editor's Notes** that provide guidance for editing, click on MasterWorks/Single-File Formatting/Toggle/Editor's Notes.

To read **detailed research, technical information about products and materials, and coordination checklists**, click on MasterWorks/Supporting Information.

Content Requests:

[<Double click here to submit questions, comments, or suggested edits to this Section.>](#)

Access Manufacturer-Provided AIA MasterSpec-Based Sections:

[<Double click here for this Section based on specific manufacturer's products set as Basis-of-Design at ProductMasterSpec.com.>](#)

Revise this Section by deleting and inserting text to meet Project-specific requirements.

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Gas-engine-driven generator sets.
2. Gas engine.
3. Gas fuel system.
4. Control and monitoring.
5. Generator overcurrent and fault protection.
6. Generator, exciter, and voltage regulator.
7. Load bank.
8. Outdoor generator-set enclosure.
9. Remote radiator motors.
10. Vibration isolation devices.

B. Related Requirements:

Retain subparagraphs below to cross-reference requirements Contractor might expect to find in this Section but are specified in other Sections.

1. Section 262313 "Paralleling Low-Voltage Switchgear" for controls and paralleling equipment for large or multiple parallel engine generators.
2. Section 263343 "Battery Chargers" for remote engine battery chargers.
3. Section 263600 "Transfer Switches" for transfer switches including sensors and relays to initiate automatic-starting and -stopping signals for engine generators.

1.2 DEFINITIONS

Retain terms that remain after this Section has been edited for a project.

If using Section 260800 "Electrical Commissioning," coordinate use of "emergency" and "essential."

- A. EPS: Emergency power supply.
- B. EPSS: Emergency power supply system.
- C. LP: Liquefied petroleum.
- D. Operational Bandwidth: The total variation from the lowest to highest value of a parameter over the range of conditions indicated, expressed as a percentage of the nominal value of the parameter.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 1. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
 2. Include thermal damage curve for generator.
 3. Include time-current characteristic curves for generator protective device.
 4. Include fuel consumption in cubic feet per hour (cubic meters per hour) at 0.8 power factor at 0.5, 0.75 and 1.0 times generator capacity.
 5. Include generator efficiency at 0.8 power factor at 0.5, 0.75, and 1.0 times generator capacity.
 6. Include air flow requirements for cooling and combustion air in cfm at 0.8 power factor, with air supply temperature of 95 deg F, 80 deg F, 70 deg F, and 50 deg F. Provide drawings showing requirements and limitations for location of air intake and exhausts.
 7. Include generator characteristics, including, but not limited to, kilowatt rating, efficiency, reactances, and short-circuit current capability.
- B. Shop Drawings:
 1. Include plans and elevations for engine generator and other components specified.
 2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
 3. Identify fluid drain ports and clearance requirements for proper fluid drain.
 4. Design calculations for selecting vibration isolators and seismic restraints and for designing vibration isolation bases.

5. Vibration Isolation Base Details: Detail fabrication including anchorages and attachments to structure and to supported equipment. Include base weights.
6. Include diagrams for power, signal, and control wiring. Complete schematic, wiring, and interconnection diagrams showing terminal markings for EPS equipment and functional relationship between all electrical components.

1.4 INFORMATIONAL SUBMITTALS

Coordinate "Qualification Data" Paragraph below with qualification requirements in Section 014000 "Quality Requirements" and as may be supplemented in "Quality Assurance" Article.

- A. Qualification Data: For **[Installer]** **[manufacturer]** **[and]** **[testing agency]**.

Retain "Seismic Qualification Data" Paragraph below if required by seismic criteria applicable to Project. Coordinate with Section 260548.16 "Seismic Controls for Electrical Systems." See ASCE/SEI 7 for certification requirements for equipment and components.

- B. Seismic Qualification Data: Certificates, for engine generator, accessories, and components, from manufacturer.
1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
 2. Dimensioned Outline Drawings of Equipment Unit: With engine and generator mounted on rails, identify center of gravity and total weight, **[supplied enclosure,]** **[external silencer,]** **[subbase-mounted fuel tank,]** **[skid-mounted load bank,]** and each piece of equipment not integral to the engine generator, and locate and describe mounting and anchorage provisions.
 3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.

Coordinate first paragraph below with "Source Quality Control" Article.

- C. Source Quality-Control Reports: Including, but not limited to, the following:
1. Certified summary of prototype-unit test report.
 2. Certified Test Reports: For components and accessories that are equivalent, but not identical, to those tested on prototype unit.

Retain first subparagraph below for engine generators specified to meet performance requirements and for engine generators serving sensitive loads.

3. Certified Summary of Performance Tests: Certify compliance with specified requirement to meet performance criteria for sensitive loads.
4. Report of factory test on units to be shipped for this Project, showing evidence of compliance with specified requirements.
5. Report of sound generation.
6. Report of exhaust emissions showing compliance with applicable regulations.

Requirement in subparagraph below is from Section 5.6.10.2 of NFPA 110.

7. Certified Torsional Vibration Compatibility: Comply with NFPA 110.

Retain "Field quality-control reports" Paragraph below if Contractor is responsible for field quality-control testing and inspecting.

- D. Field quality-control reports.
- E. Warranty: For special warranty.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For engine generators to include in emergency, operation, and maintenance manuals.
 - 1. In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:
 - a. List of tools and replacement items recommended to be stored at Project for ready access. Include part and drawing numbers, current unit prices, and source of supply.
 - b. Operating instructions laminated and mounted adjacent to generator location.
 - c. Training plan.

1.6 MAINTENANCE MATERIAL SUBMITTALS

Extra materials may not be allowed for publicly funded projects.

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

Quantities below are examples only.

- 1. Fuses: One for every 10 of each type and rating, but no fewer than one of each.
- 2. Indicator Lamps: Two for every six of each type used, but no fewer than two of each.
- 3. Filters: One set each of lubricating oil, fuel, and combustion-air filters.
- 4. Tools: Each tool listed by part number in operations and maintenance manual.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

Retain "Testing Agency Qualifications" Paragraph below if Contractor selects testing agency or if Contractor is required to provide services of a qualified testing agency in "Field Quality Control" Article. Qualification requirements are in addition to those specified in Section 014000 "Quality Requirements."

- B. Testing Agency Qualifications: Accredited by NETA.
 - 1. Testing Agency's Field Supervisor: Certified by NETA to supervise on-site testing.

1.8 WARRANTY

When warranties are required, verify with Owner's counsel that special warranties stated in this article are not less than remedies available to Owner under prevailing local laws.

- A. Manufacturer's Warranty: Manufacturer agrees to repair or replace components of packaged engine generators and associated auxiliary components that fail in materials or workmanship within specified warranty period.

Verify available warranties and warranty periods for units and components.

- 1. Warranty Period: <Insert number> years from date of Substantial Completion.

PART 2 - PRODUCTS

Manufacturers and products listed in this Section are neither recommended nor endorsed by the AIA or Deltek. Before selecting manufacturers and products, verify availability, suitability for intended applications, and compliance with minimum performance requirements. Product options commonly available from manufacturers are included in square brackets throughout the Section Text. Not every manufacturer listed can provide every option offered; verify availability with manufacturers. For definitions of terms and requirements for Contractor's product selection, see Section 016000 "Product Requirements."

2.1 GAS-ENGINE-DRIVEN GENERATOR SETS

- A. <Double click here to find, evaluate, and insert list of manufacturers and products.>
- B. Source Limitations: Obtain packaged engine generators and auxiliary components through one source from a single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

Retain "Seismic Performance" Paragraph below with "Seismic Qualification Data" Paragraph in "Informational Submittals" Article for projects requiring seismic design. Delete paragraph if performance requirements are indicated on Drawings. Model building codes and ASCE/SEI 7 establish criteria for buildings subject to earthquake motions. Coordinate requirements with structural engineer.

- A. Seismic Performance: Engine generator housing, engine generator, batteries, battery racks, silencers, [load banks,]and sound attenuating equipment, accessories, and components shall withstand the effects of earthquake motions determined according to [ASCE/SEI 7]<Insert requirement>.

Retain first subparagraph below to define the term "withstand" as it applies to this Project. Definition varies with type of building and occupancy and is critical to valid certification. Option is used for essential facilities where equipment must operate immediately after an earthquake.

1. The term "withstand" means "the unit will remain in place without separation of any parts when subjected to the seismic forces specified[**and the unit will be fully operational after the seismic event**]."
2. Shake-table testing shall comply with ICC-ES AC156. Testing shall be performed with all fluids at worst-case normal levels.

For life-safety components required to function after an earthquake (such as fire-sprinkler systems, components that contain hazardous content, and storage racks in structures open to the public), the Component Importance Factor is 1.5. For other components, the Component Importance Factor is 1.0 unless the structure is in Seismic Use Group III and component is necessary for continued operation of facility or failure of component could impair continued operation of facility, in which case the Component Importance Factor is 1.5.

3. Component Importance Factor: [**1.5**][**1.0**].

B. B11 Compliance: Comply with B11.19.

C. NFPA Compliance:

1. Comply with NFPA 37.
2. Comply with NFPA 70.

Retain first subparagraph below for healthcare facilities.

3. Comply with NFPA 99.

Retain subparagraph below if generator is automatically started. See the Evaluations for discussion of emergency generator level requirements.

4. Comply with NFPA 110 requirements for Level [**1**] [**2**] EPSS.

Do not retain UL 2200 for marine generators, UPS equipment, hazardous or classified locations, or mobile engine generator packages that are covered by the applicable UL standards.

D. UL Compliance: Comply with UL2200.

Retaining Tier 2 or 3 in "Engine Exhaust Emissions" Paragraph below is dependent on the size of the engine and generator use. Most emergency engine generators are exempt from Tier 4 requirements unless used to support load while normal power is available. See discussion in the Evaluations and see EPA and manufacturer's documentation.

E. Engine Exhaust Emissions: Comply with EPA Tier [**2**] [**3**] [**4**] requirements and applicable state and local government requirements.

Retain "Noise Emission" Paragraph below for installations with critical noise-abatement requirements, particularly outdoor engine generators. Coordinate with noise-reduction features in the design, including those relating to cooling-air intake and discharge arrangement and muffler specification and its location and orientation as shown on Drawings. See the Evaluations for discussion of noise generation and regulations.

F. Noise Emission: Comply with [**applicable state and local government requirements**] <Insert Project criteria> for maximum noise level at [**adjacent property boundaries**] <Insert critical

locations> due to sound emitted by engine generator including engine, engine exhaust, engine cooling-air intake and discharge, and other components of installation.

- G. Environmental Conditions: Engine generator system shall withstand the following environmental conditions without mechanical or electrical damage or degradation of performance capability:

Retain first option in "Ambient Temperature" Subparagraph below if engine generator start time must be within NFPA 110 limits. This temperature range usually implies installation indoors in heated space. Coordinate with Drawings.

1. Ambient Temperature: **[41 to 104 deg F]** **[5 to 104 deg F]**.

Delete "Relative Humidity" Subparagraph below for outdoor units.

2. Relative Humidity: Zero to 95 percent.
3. Altitude: Sea level to **[1000 feet]** **<Insert altitude>**.

If unusual service conditions for equipment exist and cannot be eliminated, specify them in "Unusual Service Conditions" Paragraph below. See the Evaluations for further discussion of service conditions.

- H. Unusual Service Conditions: Engine generator equipment and installation are required to operate under the following conditions:

Subparagraph below is an example only. Revise to list unusual conditions.

1. **[High salt-dust content in the air due to sea-spray evaporation]** **<Insert unusual condition>**.

2.3 ENGINE GENERATOR ASSEMBLY DESCRIPTION

- A. Factory-assembled and -tested, water-cooled engine, with brushless generator and accessories.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a testing agency acceptable to authorities having jurisdiction, and marked for intended location and use.

See Evaluations for discussion of prime and industrial ratings.

- C. Power Rating: **[Prime]** **[Industrial]** **[Standby]**.

"Overload Capacity" Paragraph below is only applicable if "prime" option is retained above.

- D. Overload Capacity: 110 percent of service load for 1 hour in 12 consecutive hours.

Retain "EPSS Class" Paragraph below if retaining "standby" option in "Power Rating" Paragraph above. "Class," as used in "EPSS Class" Paragraph below, refers to the number of hours the EPSS is required to operate at full load without refueling. Coordinate with seismic design criteria. NFPA 110 requires seismic Categories C, D, E, and F to have a minimum 96-hour fuel supply for Level 1 engine generators.

- E. EPSS Class: Engine generator shall be classified as [**Class 2**] [**Class 6**] [**Class 48**] [**Class 96**] <Insert **Classification**> according to NFPA 110.
- F. Service Load: <Insert number> kVA.
- G. Power Factor: [**0.8**] <Insert number>, lagging.
- H. Frequency: 60 Hz.
- I. Voltage: [**208**] [**240**] [**480**] [**600**] [**4160**] V ac.
- J. Phase: Three-phase, [**three**] [**four**] wire, [wye] [**delta**].
- K. Induction Method: [**Naturally aspirated**][**Turbocharged**].
- L. Governor: Adjustable isochronous, with speed sensing.
- M. Mounting Frame: Structural steel framework to maintain alignment of mounted components without depending on concrete foundation. Provide lifting attachments sized and spaced to prevent deflection of base during lifting and moving.

Retain "Rigging Diagram" Subparagraph below if rigging is required.

- 1. Rigging Diagram: Inscribed on metal plate permanently attached to mounting frame to indicate location and lifting capacity of each lifting attachment and generator-set center of gravity.

Coordinate "Capacities and Characteristics" Paragraph below with prototype test requirements in "Informational Submittals" Article and in "Source Quality Control" Article.

- N. Capacities and Characteristics:
 - 1. Power Output Ratings: Nominal ratings as indicated at 0.8 power factor excluding power required for the continued and repeated operation of the unit and auxiliaries[, **with capacity as required to operate as a unit as evidenced by records of prototype testing**].
 - 2. Nameplates: For each major system component to identify manufacturer's name and address, and model and serial number of component.

Retain "Engine Generator Performance" Paragraph below for loads involving little or no sensitive electronic equipment or adjustable frequency drives. For loads that involve sensitive electronic equipment or significant nonlinear load elements, see "Generator-Set Performance for Sensitive Loads" Paragraph below. For loads that involve UPS systems, consult manufacturers to determine the engine generator performance characteristics and revise one of two paragraphs below. See the Evaluations.

- O. Engine Generator Performance:
 - 1. Steady-State Voltage Operational Bandwidth: 3 percent of rated output voltage from no load to full load.

2. Transient Voltage Performance: Not more than 20 percent variation for 50 percent step-load increase or decrease. Voltage shall recover and remain within the steady-state operating band within three seconds.
3. Steady-State Frequency Operational Bandwidth: 0.5 percent of rated frequency from no load to full load.
4. Steady-State Frequency Stability: When system is operating at any constant load within the rated load, there shall be no random speed variations outside the steady-state operational band and no hunting or surging of speed.
5. Transient Frequency Performance: Less than 5 percent variation for 50 percent step-load increase or decrease. Frequency shall recover and remain within the steady-state operating band within five seconds.
6. Output Waveform: At no load, harmonic content measured line to line or line to neutral shall not exceed 5 percent total and 3 percent for single harmonics. Telephone influence factor, determined according to NEMA MG 1, shall not exceed 50 percent.
7. Sustained Short-Circuit Current: For a three-phase, bolted short circuit at system output terminals, system shall supply a minimum of 250 percent of rated full-load current for not less than 10 seconds and then clear the fault automatically, without damage to generator system components.
8. Start Time:

Retain first subparagraph below for standby generators. First option in subparagraph below requires generator to start immediately and function "basically (as an) uninterruptible power supply." Second option requires 10-second maximum start time under specific conditions and includes startup only, not load assumption. Other startup Types are also available.

- a. Comply with NFPA 110, [Type U] [Type 10] system requirements.

Retain subparagraph below for prime or industrial generators.

- b. [10] <Insert time> seconds.

Retain "Engine Generator Performance for Sensitive Loads" Paragraph below for loads involving sensitive electronic equipment or significant nonlinear load elements. For loads that involve UPS systems, consult manufacturers to determine the engine generator performance characteristics and revise paragraph below. Coordinate with "Governor" Paragraph in "Engine Generator Assembly Description" Article and with "Generator, Exciter, and Voltage Regulator" Article. See Section 263353 "Static Uninterruptible Power Supply" for coordination with UPS equipment.

P. Engine Generator Performance for Sensitive Loads:

1. Oversizing generator compared with the rated power output of the engine is permissible to meet specified performance.
 - a. Nameplate Data for Oversized Generator: Show ratings required by the Contract Documents rather than ratings that would normally be applied to generator size installed.

Some manufacturers may be required to provide an oversized engine generator to meet parameters in "Steady-State Voltage Operational Bandwidth" Subparagraph below. This could impact space, noise, ventilation, cooling, and other parameters. Permanent magnet excitation is an alternative method to meet

the requirements in the subparagraphs below. Verify performance of products if specific manufacturers are listed. Revise requirements below to suit actual Project load characteristics. See the Evaluations.

2. Steady-State Voltage Operational Bandwidth: 1 percent of rated output voltage from no load to full load.
3. Transient Voltage Performance: Not more than 10 percent variation for 50 percent step-load increase or decrease. Voltage shall recover and remain within the steady-state operating band within 0.5 second.
4. Steady-State Frequency Operational Bandwidth: Plus or minus 0.25 percent of rated frequency from no load to full load.
5. Steady-State Frequency Stability: When system is operating at any constant load within the rated load, there shall be no random speed variations outside the steady-state operational band and no hunting or surging of speed.
6. Transient Frequency Performance: Less than 2-Hz variation for 50 percent step-load increase or decrease. Frequency shall recover and remain within the steady-state operating band within three seconds.
7. Output Waveform: At no load, harmonic content measured line to neutral shall not exceed 2 percent total with no slot ripple. Telephone influence factor, determined according to NEMA MG 1, shall not exceed 50 percent.
8. Sustained Short-Circuit Current: For a three-phase, bolted short circuit at system output terminals, system shall supply a minimum of 300 percent of rated full-load current for not less than 10 seconds and then clear the fault automatically, without damage to winding insulation or other generator system components.
9. Excitation System: Performance shall be unaffected by voltage distortion caused by nonlinear load.

Permanent magnet excitation in first subparagraph below is a standard feature of some manufacturers' engine generators larger than 200 kW.

- a. Provide permanent magnet excitation for power source to voltage regulator.

10. Start Time:

Retain first subparagraph below for standby generators. First option in subparagraph below requires generator to start immediately and function "basically (as an) uninterruptible power supply." Second option requires 10-second maximum start time under specific conditions and includes startup only, not load assumption. Other startup Types are also available.

- a. Comply with NFPA 110, [Type U] [Type 10] system requirements.

Retain subparagraph below for prime or industrial generators.

- b. [10] <Insert time> seconds.

Retain "Parallel Engine Generators" Paragraph below for paralleled generators; delete for single-unit generators. This paragraph is intended for the specification of dual-unit, smaller-sized parallel generators. For large or multiple parallel units, see Section 262313 "Paralleling Low-Voltage Switchgear," which is recommended to provide the required paralleling equipment and functionality. Generators may be paralleled to supply power to the required load with smaller, less-expensive units or to provide redundancy and higher reliability. Multiple sets allow the possibility of removing a unit from operation for maintenance or repair without adversely affecting the emergency load capability.

Q. Parallel Engine Generators:

1. Automatic reactive output power control and load sharing between engine generators operated in parallel.
2. Automatic regulation, automatic connection to a common bus, and automatic synchronization, with manual controls and instruments to monitor and control paralleling functions.
3. Protective relays required for equipment and personnel safety.
4. Paralleling suppressors to protect excitation systems.
5. Reverse power protection.
6. Loss of field protection.

2.4 GAS ENGINE

A. Fuel: **[Natural gas] [and] [LP gas] [Natural gas with LP gas backup]**.

B. Rated Engine Speed: 1800 rpm.

C. Lubrication System: Engine or skid-mounted.

1. Filter and Strainer: Rated to remove 90 percent of particles 5 micrometers and smaller while passing full flow.
2. Thermostatic Control Valve: Control flow in system to maintain optimum oil temperature. Unit shall be capable of full flow and is designed to be fail-safe.
3. Crankcase Drain: Arranged for complete gravity drainage to an easily removable container with no disassembly and without use of pumps, siphons, special tools, or appliances.

"Jacket Coolant Heater" Paragraph below is an optional feature, often used on emergency generators, where required by NFPA 110 5.3.1, to keep engine jacket-water temperature within a certain range. Coordinate with Drawings for electrical supply.

D. Jacket Coolant Heater: Electric-immersion type, factory installed in coolant jacket system. Comply with UL 499 **[and with NFPA 110 requirements for Level 1 equipment for heater capacity]**.

Retain "Integral Cooling System" or "Remote Cooling System" Paragraph below. Coordinate with Drawings. See the Evaluations for further discussion of cooling cycle and effect of location on radiator effectiveness.

E. Integral Cooling System: Closed loop, liquid cooled, with radiator factory mounted on engine generator mounting frame and integral engine-driven coolant pump.

1. Coolant: Solution of 50 percent ethylene-glycol-based antifreeze and 50 percent water, with anticorrosion additives as recommended by engine manufacturer.

Retain "Size of Radiator" or "Expansion Tank" Subparagraph below. Retain "Expansion Tank" Subparagraph if containment of coolant expansion by radiator is marginal or inadequate. Coordinate with Drawings.

2. Size of Radiator: Adequate to contain expansion of total system coolant from cold start to 110 percent load condition.
3. Expansion Tank: Constructed of welded steel plate and rated to withstand maximum closed-loop coolant system pressure for engine used. Equip with gage glass and petcock.
4. Temperature Control: Self-contained, thermostatic-control valve modulates coolant flow automatically to maintain optimum constant coolant temperature as recommended by engine manufacturer.
5. Coolant Hose: Flexible assembly with inside surface of nonporous rubber and outer covering of aging-, ultraviolet-, and abrasion-resistant fabric.
 - a. Rating: 50-psig maximum working pressure with coolant at 180 deg F, and noncollapsible under vacuum.
 - b. End Fittings: Flanges or steel pipe nipples with clamps to suit piping and equipment connections.

Retain first option in "Remote Cooling System" Paragraph below for remote radiator cooling unless friction head is exceeded. If both static and friction heads are exceeded, a heat exchanger cooling system may be required. Coordinate with generator-set manufacturer for remote radiator or heat exchanger type cooling. Indicate remote radiator location on Drawings.

- F. Remote Cooling System: Closed loop, liquid cooled, with remote radiator and [integral engine-driven] [auxiliary] coolant pump. Comply with requirements in Section 232113 "Hydronic Piping" for coolant piping.
1. Configuration: [Vertical] [Horizontal] air discharge.
 2. Radiator Core Tubes: [Aluminum] [Nonferrous-metal construction other than aluminum].

Retain "Size of Radiator" or "Expansion Tank" Subparagraph below. Retain "Expansion Tank" Subparagraph if containment of coolant expansion by radiator is marginal or inadequate. Coordinate with Drawings. See Section 077200 "Roof Accessories" for the type and style of roof curbs and equipment supports for a remote radiator mounted on the roof.

3. Size of Radiator: Adequate to contain expansion of total system coolant from cold start to 110 percent load condition.
4. Expansion Tank: Constructed of welded steel plate and rated to withstand maximum closed-loop coolant system pressure for engine used. Equip with gage glass and petcock.
5. Fan: Driven by [multiple belts from engine shaft] [totally enclosed electric motor with sealed bearings].
6. Coolant: Solution of 50 percent ethylene-glycol-based antifreeze and 50 percent water, with anticorrosion additives as recommended by engine manufacturer.
7. Temperature Control: Self-contained, thermostatic-control valve modulates coolant flow automatically to maintain optimum constant coolant temperature as recommended by engine manufacturer.

- G. Muffler/Silencer:

Retain one of three subparagraphs below. Revise dBA requirements to accommodate environment in which engine generator is operating. If unit is specified with an enclosure, consider specifying sound level requirements at specified distance from enclosure on each of four sides. See the Evaluations for discussion of muffler types and noise criteria.

1. Critical type, sized as recommended by engine manufacturer and selected with exhaust piping system to not exceed engine manufacturer's engine backpressure requirements.
 - a. Minimum sound attenuation of 25 dB at 500 Hz.
 - b. Sound level measured at a distance of 25 feet from exhaust discharge after installation is complete shall be [78] <Insert number> dBA or less.
2. Semicritical type, sized as recommended by engine manufacturer and selected with exhaust piping system to not exceed engine manufacturer's engine backpressure requirements.
 - a. Minimum sound attenuation of 18 dB at 500 Hz.
 - b. Sound level measured at a distance of 25 feet from exhaust discharge after installation is complete shall be [85] <Insert number> dBA or less.
3. Commercial type, sized as recommended by engine manufacturer and selected with exhaust piping system to not exceed engine manufacturer's engine backpressure requirements.
 - a. Minimum sound attenuation of 12 dB at 500 Hz.
 - b. Sound level measured at a distance of 25 feet from exhaust discharge after installation is complete shall be [90] <Insert number> dBA or less.

Retain second option in "Air-Intake Filter" Paragraph below if filters may not be serviced as often as recommended. If air contaminant level is excessive, consult manufacturers to determine if special filtration of combustion air is needed.

- H. Air-Intake Filter: [Standard] [Heavy]-duty, engine-mounted air cleaner with replaceable dry-filter element and "blocked filter" indicator.

Retain first option in "Starting System" Paragraph below for smaller engine generators. Retain second option for units 175 kW and larger.

- I. Starting System: [12] [24]-V electric, with negative ground.
1. Components: Sized so they are not damaged during a full engine-cranking cycle with ambient temperature at maximum specified in "Performance Requirements" Article.
 2. Cranking Motor: Heavy-duty unit that automatically engages and releases from engine flywheel without binding.

Retain first option in "Cranking Cycle" Subparagraph below if "Performance Requirements" Article specifies NFPA 110, Level 1 or 2; otherwise, retain second. See the Evaluations for further discussion of cranking cycle.

3. Cranking Cycle: [As required by NFPA 110 for system level specified] [60 seconds].

First option in "Battery" Subparagraph below complies with NFPA 110 requirements. Second is a more conservative rule used for some industrial applications. Lead-acid batteries are less expensive and perform as well as or better than nickel cadmium if temperatures are maintained between 0 deg F (minus 18 deg C) and 100 deg F (plus 38 deg C). Note that valve-regulated, lead-acid batteries are even more subject to thermal stresses and are not recommended for engine generator starting service. Nickel

cadmium batteries have better characteristics in more extreme temperature applications. Verify requirements for eyewash in the vicinity of the batteries with the authority having jurisdiction.

4. Battery: **[Lead acid] [Nickel cadmium]**, with capacity within ambient temperature range specified in "Performance Requirements" Article to provide specified cranking cycle at least **[twice] [three times]** without recharging.

Coordinate "Battery Cable" Subparagraph below with Drawings.

5. Battery Cable: Size as recommended by engine manufacturer for cable length indicated. Include required interconnecting conductors and connection accessories.

Retain "Battery Compartment" Subparagraph below if compartment is required.

6. Battery Compartment: Factory fabricated of metal with acid-resistant finish and thermal insulation. Thermostatically controlled heater shall be arranged to maintain battery above 50 deg F regardless of external ambient temperature within range specified in "Performance Requirements" Article. Include accessories required to support and fasten batteries in place. Provide ventilation to exhaust battery gases.
7. Battery Stand: Factory-fabricated, two-tier metal with acid-resistant finish designed to hold the quantity of battery cells required and to maintain the arrangement to minimize lengths of battery interconnections.
8. Battery-Charging Alternator: Factory mounted on engine with solid-state voltage regulation and 35 A minimum continuous rating.

Coordinate "Battery Charger" Subparagraph below with Section 263600 "Transfer Switches." Retain if battery charger is not specified to be integral with transfer switch.

9. Battery Charger: Current-limiting, automatic-equalizing and float-charging type designed for **[lead-acid] [nickel cadmium]** batteries. Unit shall comply with UL 1236 and include the following features:
 - a. Operation: Equalizing-charging rate of 10 A shall be initiated automatically after battery has lost charge until an adjustable equalizing voltage is achieved at battery terminals. Unit shall then be automatically switched to a lower float-charging mode and shall continue to operate in that mode until battery is discharged again.
 - b. Automatic Temperature Compensation: Adjust float and equalize voltages for variations in ambient temperature from minus 40 deg F to 140 deg F to prevent overcharging at high temperatures and undercharging at low temperatures.
 - c. Automatic Voltage Regulation: Maintain constant output voltage regardless of input voltage variations up to plus or minus 10 percent.
 - d. Ammeter and Voltmeter: Flush mounted in door. Meters shall indicate charging rates.

"Safety Functions" Subparagraph below covers sensing for safety indications on control and monitoring panel.

- e. Safety Functions: Sense abnormally low battery voltage and close contacts providing low battery voltage indication on control and monitoring panel. Sense high battery voltage and loss of ac input or dc output of battery charger. Either condition shall close contacts that provide a battery-charger malfunction indication at system control and monitoring panel.
- f. Enclosure and Mounting: NEMA 250, Type 1, wall-mounted cabinet.

2.5 GAS FUEL SYSTEM

- A. Natural Gas Piping: Comply with requirements in Section 231123 "Facility Natural Gas Piping."
- B. LP Gas Piping: Comply with requirements in Section 231126 "Facility Liquefied-Petroleum Gas Piping."
- C. Gas Train: Comply with NFPA 37.
- D. Engine Fuel System:

Revise "Vapor-Withdrawal System" Subparagraph below if generator will be connected to a single LP gas or natural gas service.

- 1. Vapor-Withdrawal System:
 - a. Carburetor.

Retain "Secondary Gas Regulators" Subparagraph below if generator will be connected to a separate gas service.

- b. Secondary Gas Regulators: One for each fuel type, with atmospheric vents piped to building exterior.
 - c. Fuel-Shutoff Solenoid Valves: NRTL-listed, normally closed, safety shutoff valves; one for each fuel source.
- 2. Fuel Filters: One for each fuel type.
- 3. Manual Fuel Shutoff Valves: One for each fuel type.
- 4. Flexible Fuel Connectors: Minimum one for each fuel connection.

Retain two subparagraphs below if generator will be connected to both LP and natural gas services.

- 5. LP gas flow adjusting valve.
 - 6. Fuel change gas pressure switch.

2.6 CONTROL AND MONITORING

This article specifies the subsystem that monitors, protects, and controls the engine generator. See the Evaluations for more discussion of control and monitoring panels.

Retain "Automatic Starting System Sequence of Operation" Paragraph below for automatically starting systems.

- A. Automatic Starting System Sequence of Operation: When mode-selector switch on the control and monitoring panel is in the automatic position, remote-control contacts in one or more separate automatic transfer switches initiate starting and stopping of engine generator. When mode-selector switch is switched to the on position, engine generator starts. The off position of same switch initiates generator-set shutdown. When engine generator is running, specified system or equipment failures or derangements automatically shut down engine generator and initiate alarms.

Retain "Manual Starting System Sequence of Operation" Paragraph below for manually starting systems.

- B. Manual Starting System Sequence of Operation: Switching on-off switch on the generator control panel to the on position starts engine generator. The off position of same switch initiates generator-set shutdown. When engine generator is running, specified system or equipment failures or derangements automatically shut down engine generator and initiate alarms.
- C. Provide minimum run time control set for [15] [30] <Insert number> minutes with override only by operation of a remote emergency-stop switch.
- D. Comply with UL 508A.
- E. Configuration:

Retain one of three subparagraphs below to describe control and monitoring unit configuration. Coordinate retained subparagraph with Drawings. Retain first subparagraph unless special requirements justify significant extra cost of one of the other two configurations. See the Evaluations.

- 1. Operating and safety indications, protective devices, basic system controls, and engine gages shall be grouped in a common control and monitoring panel mounted on the engine generator. Mounting method shall isolate the control panel from generator-set vibration. Panel shall be powered from the engine generator battery.
- 2. Operating and safety indications, protective devices, basic system controls, and engine gages shall be grouped in a common wall-mounted control and monitoring panel. Panel shall be powered from the engine generator battery.
- 3. Operating and safety indications, protective devices, basic system controls, engine gages, instrument transformers, generator disconnect switch or circuit breaker, and other indicated components shall be grouped in a combination control and power panel. Control and monitoring section of panel shall be isolated from power sections by steel barriers. Panel shall be powered from the engine generator battery. Panel features shall include the following:

Retain one of three subparagraphs below to further define control and power panel in last subparagraph above.

- a. Wall-Mounting Cabinet Construction: Rigid, self-supporting steel unit complying with NEMA ICS 6.
- b. Switchboard Construction: Freestanding unit complying with Section 262413 "Switchboards." Power bus shall be copper. Bus, bus supports, control wiring, and temperature rise shall comply with UL 891.
- c. Switchgear Construction: Freestanding unit complying with Section 262300 "Low-Voltage Switchgear."

- F. Control and Monitoring Panel:

Retain one or both of first two subparagraphs below. First subparagraph is for an integrated digital controller; second is for an analog controller.

- 1. Digital controller with integrated LCD, controls, and microprocessor, capable of local and remote control, monitoring, and programming, with battery backup.

2. Analog control panel with dedicated gages and indicator lights for the instruments and alarms indicated below.
3. Instruments: Located on the control and monitoring panel and viewable during operation.

Below is a list of instruments commonly used to monitor engine generator operation. Additional instruments recommended or required by the engine manufacturer to maintain the engine should be added to the list.

- a. Engine lubricating-oil pressure gage.

Gage below is only required for engines with liquid coolant.

- b. Engine-coolant temperature gage.
- c. DC voltmeter (alternator battery charging).
- d. Running-time meter.

First four subparagraphs below are required for Level 1 engines by NFPA 110, Article 5.6.9.9.

- e. AC voltmeter, **[for each phase] [connected to a phase selector switch]**.
 - f. AC ammeter, **[for each phase] [connected to a phase selector switch]**.
 - g. AC frequency meter.
 - h. Generator-voltage adjusting rheostat.
4. Controls and Protective Devices: Controls, shutdown devices, and common visual alarm indication, including the following:
 - a. Cranking control equipment.

Retain first two subparagraphs below for automatic start systems. Delete for manual start systems.

- b. Run-Off-Auto switch.
- c. Control switch not in automatic position alarm.

See the Evaluations for typical local and remote alarm indications and shutdowns.

- d. Overcrank alarm.
- e. Overcrank shutdown device.
- f. Low water temperature alarm.

First subparagraph below is a common optional feature.

- g. High engine temperature prealarm.
- h. High engine temperature.
- i. High engine temperature shutdown device.
- j. Overspeed alarm.
- k. Overspeed shutdown device.

Retain instrument in first subparagraph below for gaseous systems with fuel tanks.

- l. Low fuel main tank.
 - 1) Low-fuel-level alarm shall be initiated when the level falls below that required for operation for the duration required for the indicated EPSS class.
- m. Coolant low-level alarm.

First subparagraph below is an optional feature for Level 1 engines.

- n. Coolant low-level shutdown device.

First four subparagraphs below are optional features not required by NFPA 110.

- o. Coolant high-temperature prealarm.
- p. Coolant high-temperature alarm.
- q. Coolant low-temperature alarm.
- r. Coolant high-temperature shutdown device.
- s. EPS supplying load indicator.

Retain first four subparagraphs below for Level 1 battery-start engines. Consider retaining them for Level 2 systems also.

- t. Battery high-voltage alarm.
- u. Low cranking voltage alarm.
- v. Battery-charger malfunction alarm.
- w. Battery low-voltage alarm.
- x. Lamp test.
- y. Contacts for local and remote common alarm.

Retain one of first two subparagraphs below for Level 1 pneumatic-start engines. Consider retaining them for Level 2 systems also.

- z. Low-starting air pressure alarm.
- aa. Low-starting hydraulic pressure alarm.
- bb. Remote manual stop shutdown device.
- cc. Air shutdown damper alarm when used.
- dd. Air shutdown damper shutdown device when used.
- ee. Hours of operation.
- ff. Engine generator metering, including voltage, current, Hz, kW, kVA, and power factor.

Retain subparagraph below for units with "generator-protector" feature.

- gg. Generator overcurrent protective device not closed alarm.

- G. Engine Generator Metering: Comply with [Section 260913 "Electrical Power Monitoring and Control."][Section 262713 "Electricity Metering."][Section 260913 "Electrical Power Monitoring and Control" and Section 262713 "Electricity Metering."]

Features in "Connection to Datalink" Paragraph below facilitate connection to building automation system or building control and monitoring system. Coordinate with Drawings and Section covering data transmission and data terminals.

- H. Connection to Datalink:

- 1. A separate terminal block, factory wired to Form C dry contacts, for each alarm and status indication.
- 2. Provide connections for datalink transmission of indications to remote data terminals via [ModBus] [LonWorks] [Ethernet] <Insert other data protocol>. Data system connections to terminals are covered in Section 260913 "Electrical Power Monitoring and Control."

Retain "Common Remote Panel with Common Audible Alarm" or "Remote Alarm Annunciator" Paragraph below, or delete both. Coordinate with Drawings.

- I. Common Remote Panel with Common Audible Alarm: Include necessary contacts and terminals in control and monitoring panel. Remote panel shall be powered from the engine generator battery.
- J. Remote Alarm Annunciator: An LED indicator light labeled with proper alarm conditions shall identify each alarm event, and a common audible signal shall sound for each alarm condition. Silencing switch in face of panel shall silence signal without altering visual indication. Connect so that after an alarm is silenced, clearing of initiating condition will reactivate alarm until silencing switch is reset. Cabinet and faceplate are surface- or flush-mounting type to suit mounting conditions indicated.
 - 1. Overcrank alarm.
 - 2. Coolant low-temperature alarm.
 - 3. High engine temperature prealarm.
 - 4. High engine temperature alarm.
 - 5. Low lube oil pressure alarm.
 - 6. Overspeed alarm.
 - 7. Low fuel main tank alarm.
 - 8. Low coolant level alarm.
 - 9. Low cranking voltage alarm.
 - 10. Contacts for local and remote common alarm.
 - 11. Audible-alarm silencing switch.
 - 12. Air shutdown damper when used.

Retain first two subparagraphs below for automatic start systems. Delete for manual start systems.

- 13. Run-Off-Auto switch.
- 14. Control switch not in automatic position alarm.

Devices in first three subparagraphs below are optional.

- 15. Fuel tank derangement alarm.
- 16. Fuel tank high-level shutdown of fuel supply alarm.
- 17. Lamp test.

Retain first subparagraph below for Level 1 battery-start engines. Consider retaining it for Level 2 systems also.

- 18. Low cranking voltage alarm.

Protective device alarm in subparagraph below may not be standard or available for all engine generators. Verify availability with manufacturers.

- 19. Generator overcurrent protective device not closed.

Coordinate "Remote Emergency-Stop Switch" Paragraph below with Drawings.

- K. Remote Emergency-Stop Switch: Flush; wall mounted, unless otherwise indicated; and labeled. Push button shall be protected from accidental operation.

- L. Supporting Items: Include sensors, transducers, terminals, relays, and other devices and include wiring required to support specified items. Locate sensors and other supporting items on engine or generator, unless otherwise indicated.

2.7 GENERATOR OVERCURRENT AND FAULT PROTECTION

- A. Overcurrent protective devices shall be coordinated to optimize selective tripping when a short circuit occurs.

Retain first two subparagraphs below for standby generators.

1. Overcurrent protective devices for the entire EPSS shall be coordinated to optimize selective tripping when a short circuit occurs. Coordination of protective devices shall consider both utility and EPSS as the voltage source.
2. Overcurrent protective devices for the EPSS shall be accessible only to authorized personnel.

- B. Generator Overcurrent Protective Device:

Retain one or more subparagraphs in this article to specify disconnect switch(es) and protective devices for the generator (alternator) component of engine generator. Revise as required to accommodate multiple output devices. See the Evaluations for discussion of overload and fault protection.

Retain one of four subparagraphs below. Retain first for units smaller than 200 kW where initial cost is a concern. Device provides little or no generator protection and no selectivity with downstream circuit protective devices.

1. Molded-case circuit breaker, thermal-magnetic type; 100 percent rated; complying with UL 489:
 - a. Tripping Characteristic: Designed specifically for generator protection.
 - b. Trip Rating: Matched to generator output rating.
 - c. Shunt Trip: Connected to trip breaker when engine generator is shut down by other protective devices.
 - d. Mounting: Adjacent to or integrated with control and monitoring panel.
2. Molded-case circuit breaker, electronic-trip type; 100 percent rated; complying with UL 489:
 - a. Tripping Characteristics: Adjustable long-time and short-time delay and instantaneous.
 - b. Trip Settings: Selected to coordinate with generator thermal damage curve.
 - c. Shunt Trip: Connected to trip breaker when engine generator is shut down by other protective devices.
 - d. Mounting: Adjacent to or integrated with control and monitoring panel.

Insulated-case, electronic-trip breakers in first subparagraph below are susceptible to vibration and should be mounted in a separate enclosure not mounted on the generator skid.

3. Insulated-case circuit breaker, electronic-trip type; 100 percent rated; complying with UL 489:
 - a. Tripping Characteristics: Adjustable long-time and short-time delay and instantaneous.
 - b. Trip Settings: Selected to coordinate with generator thermal damage curve.
 - c. Shunt Trip: Connected to trip breaker when engine generator is shut down by other protective devices.
 - d. Mounting: Adjacent to, or integrated with control and monitoring panel.

Retain subparagraph below if generator is protected by feature described in the "Generator Protector" Paragraph below.

4. Molded-case type disconnect switch, 100 percent rated:
 - a. Trip Rating: Matched to generator output rating.
 - b. Shunt Trip: Connected to trip switch when signaled by generator protector or by other protective devices.

Protection scheme specified in "Generator Protector" Paragraph below may be proprietary. Consult manufacturers. Microprocessor-based generator protectors in paragraph are susceptible to vibration and should be mounted in a separate enclosure not mounted on the generator skid.

- C. Generator Protector: Microprocessor-based unit shall continuously monitor current level in each phase of generator output, integrate generator heating effect over time, and predict when thermal damage of alternator will occur. When signaled by generator protector or other generator-set protective devices, a shunt-trip device in the generator disconnect switch shall open the switch to disconnect the generator from load circuits. Protector performs the following functions:

Coordinate load shed actions in subparagraphs below with Drawings. Indicate which loads will be shed on generator overload and sequence of action if more than one.

1. Initiates a generator overload alarm when generator has operated at an overload equivalent to 110 percent of full-rated load for 60 seconds. Indication for this alarm is integrated with other generator-set malfunction alarms. Contacts shall be available for load shed functions.
2. Under single or three-phase fault conditions, regulates generator to 300 percent of rated full-load current for up to 10 seconds.
3. As overcurrent heating effect on the generator approaches the thermal damage point of the unit, protector switches the excitation system off, opens the generator disconnect device, and shuts down the engine generator.
4. Senses clearing of a fault by other overcurrent devices and controls recovery of rated voltage to avoid overshoot.

Retain "Ground-Fault Indication" Paragraph below and coordinate with Drawings for legally required emergency engine generators rated 1000 A or more at 277/480 V.

- D. Ground-Fault Indication: Comply with NFPA 70, "Emergency System" signals for ground fault.

Retain one of two subparagraphs below. Retain first for emergency and legally required standby systems. Retain second for optional standby generator systems. See the Evaluations for discussion of ground-fault protection.

1. Indicate ground fault with other engine generator alarm indications.
2. Trip generator protective device on ground fault.

2.8 GENERATOR, EXCITER, AND VOLTAGE REGULATOR

- A. Comply with NEMA MG 1.
- B. Drive: Generator shaft shall be directly connected to engine shaft. Exciter shall be rotated integrally with generator rotor.

Class H insulation in "Electrical Insulation" Paragraph below has a higher temperature rating than Class F. Class H insulation can give the alternator a longer life. Check with manufacturer to determine availability for the generator sized for the project loads.

- C. Electrical Insulation: **[Class H]** **[or]** **[Class F]**.

Twelve lead alternator in "Stator-Winding Leads" Paragraph below is also known as a "reconnectable" alternator because the leads can be reconnected in the field in series or parallel to change between delta and wye configurations.

- D. Stator-Winding Leads: Brought out to terminal box to permit future reconnection for other voltages if required. Provide **[six]** **[12]** lead alternator.

The output voltage adjustment in "Range" Paragraph below increases in each of the three ranges.

- E. Range: Provide **[limited]** **[broad]** **[extended]** range of output voltage by adjusting the excitation level.
- F. Construction shall prevent mechanical, electrical, and thermal damage due to vibration, overspeed up to 125 percent of rating, and heat during operation at 110 percent of rated capacity.
- G. Enclosure: Dripproof.

Delete "Instrument Transformers" Paragraph below if instrument transformers are housed in control and power panel.

- H. Instrument Transformers: Mounted within generator enclosure.
- I. Voltage Regulator: Solid-state type, separate from exciter, providing performance as specified **[and as required by NFPA 110]**.
 1. Adjusting Rheostat on Control and Monitoring Panel: Provide plus or minus 5 percent adjustment of output-voltage operating band.

One-step, full-load application in first subparagraph below should maintain voltage so load relays or contactors do not drop out. Verify percentage of voltage drop permissible to maintain loads.

2. Maintain voltage within [15] [20] [30] percent on one step, full load.
3. Provide anti-hunt provision to stabilize voltage.
4. Maintain frequency within [5] [10] [15] percent and stabilize at rated frequency within [2] [5] seconds.

Retain "Strip Heater" Paragraph below for high-humidity environments to limit condensation in alternator windings.

- J. Strip Heater: Thermostatically controlled unit arranged to maintain stator windings above dew point.

Retain "Windings" and "Subtransient Reactance" paragraphs below for units specified for "critical" performance. Coordinate with "Engine Generator Performance" and "Engine Generator Performance for Sensitive Loads" paragraphs in "Engine Generator Assembly Description" Article. See "Installation Considerations" Article in the Evaluations for discussions on sensitive electronic equipment and nonlinear generator loads and on supplying significant harmonic currents.

- K. Windings: Two-thirds pitch stator winding and fully linked amortisseur winding.

Value in "Subtransient Reactance" Paragraph below is recommended to be no higher than 12 percent. Lower values increase ability to limit voltage distortion caused by harmonics but are more expensive.

- L. Subtransient Reactance: [12] <Insert number> percent, maximum.

2.9 LOAD BANK

- A. Description:

Retain one of two subparagraphs below. Retain first subparagraph and revise for resistive or resistive and reactive load elements; retain second subparagraph for resistive-only load-bank skid mounted between the radiator and the exhaust shroud. See the Evaluations for further discussion of load banks. Coordinate with Drawings.

1. Permanent, outdoor, weatherproof, remote-controlled, forced-air-cooled, [resistive] [resistive and reactive] unit capable of providing a balanced three-phase, delta-connected load to engine generator at [100] <Insert number> percent rated-system capacity, at [80] <Insert number> percent power factor, lagging. [Unit may contain separate resistive and reactive load banks controlled by a common control panel.] Unit shall be capable of selective control of load in 25 percent steps and with minimum step changes of approximately 5 and 10 percent available.
2. Permanent, radiator-mounted[, resistive] unit capable of providing a balanced three-phase, delta-connected load to engine generator at [50] [70] <Insert number> percent rated-system capacity. Unit shall be capable of selective control of load in 25 percent steps of load bank rating and with minimum step changes of approximately 5 and 10 percent available.

- B. Resistive Load Elements: Corrosion-resistant chromium alloy with ceramic and stainless-steel supports. Elements shall be double insulated and designed for repetitive on-off cycling. Elements shall be mounted in removable aluminized-steel heater cases. Galvanized steel is prohibited. Element's maximum resistance shall be between 100 and 105 percent of rated resistance.
- C. Reactive Load Elements: Epoxy-encapsulated reactor coils.
- D. Load-Bank Heat Dissipation: Integral fan with totally enclosed motor shall provide uniform cooling airflow through load elements. Airflow and coil operating current shall be such that, at maximum load, with ambient temperature at the upper end of specified range, load-bank elements operate at not more than 50 percent of maximum continuous temperature rating of resistance elements.
- E. Load-Element Switching: Remote-controlled contactors switch groups of load elements. Contactor coils are rated 120 V. Contactors shall be located in a separate NEMA 250, Type 3R enclosure within load-bank enclosure, accessible from exterior through hinged doors with tumbler locks.
- F. Contactor Enclosures: Heated by thermostatically controlled strip heaters to prevent condensation.
- G. Load-Bank Enclosures: NEMA 250, Type 3R, aluminized steel complying with NEMA ICS 6. Louvers at cooling-air intake and discharge openings shall prevent entry of rain and snow. Openings for airflow shall be screened with 1/2-inch-square, galvanized-steel mesh. Reactive load bank shall include automatic shutters at air intake and discharge. Components other than resistive elements shall receive exterior epoxy coating with compatible primer. Comply with requirements in Section 099600 "High-Performance Coatings."
- H. Protective Devices: Power input circuits to load banks shall be fused, and fuses shall be selected to coordinate with generator circuit breaker. Fuse blocks shall be located in contactor enclosure. Cooling airflow and overtemperature sensors shall automatically shut down and lock out load bank until manually reset. Safety interlocks on access panels and doors shall disconnect load power, control, and heater circuits. Fan motor shall be separately protected by overload and short-circuit devices. Short-circuit devices shall be noninterchangeable fuses with 200,000 A interrupting capacity.

Coordinate "Load Bank Remote-Control Panel" and "Control Sequence" paragraphs below with Drawings.

- I. Load Bank Remote-Control Panel: Separate from load bank in NEMA 250, Type 1 enclosure with a control power switch and pilot light, and switches controlling groups of load elements.

Retain "Control Sequence" Paragraph below if load bank is used in automatic exercising of generator. Coordinate with Section covering remote-controlled switch, contactor, or electrically operated circuit breaker used to switch load bank to generator output. Switching device is typically not part of equipment specified in this Section.

- J. Control Sequence: Control panel may be preset for adjustable single-step loading of generator during automatic exercising.

2.10 OUTDOOR GENERATOR-SET ENCLOSURE

A. Description:

Retain one of two subparagraphs below and coordinate with Drawings to define basic outdoor-enclosure type. Revise to specify enclosure features required. Coordinate requirements for water, fuel, power, controls, and alarms with Drawings.

1. Vandal-resistant, sound-attenuating, weatherproof steel housing, wind resistant up to 100 mph. Multiple panels shall be lockable and provide adequate access to components requiring maintenance. Panels shall be removable by one person without tools. Instruments and control shall be mounted within enclosure.
 - a. Sound Attenuation Level: <Insert level>.

Coordinate subparagraph below with Drawings showing features, construction details, and equipment arrangement.

2. Prefabricated or pre-engineered galvanized-steel-clad, integral structural-steel-framed, walk-in enclosure, erected on concrete foundation.

Revise wind speed in "Structural Design and Anchorage" Paragraph below to suit local conditions.

- B. Structural Design and Anchorage: Comply with ASCE/SEI 7 for wind loads up to 100 mph.
- C. Seismic Design: Comply with seismic requirements in Section 260548.16 "Seismic Controls for Electrical Systems."

Fire protection in an outdoor generator enclosure is optional. Although the enclosure may be heated, failure of the heater should not endanger the unit or other fire-suppression systems. Consider using a dry pipe system to reduce freezing problems.

- D. Fire Protection: Provide fire protection in accordance with Section 211000 "Water-Based Fire-Suppression Systems." Provide smoke detector in enclosure; mounted according to NFPA 72.
- E. Hinged Doors: With padlocking provisions.

Coordinate "Space Heater" Paragraph below with gas piping and controls. Heater can be fueled by the gas service to a gas-fueled engine generator and should be interlocked to not run when the engine is running. This will prevent it from interfering with the engine fuel supply, and the heat will not be needed.

- F. Space Heater: Thermostatically controlled and sized to prevent condensation.
- G. Lighting: Provide weather-resistant [fluorescent] [LED] lighting with [30 fc] [50 fc] average maintained.
- H. Thermal Insulation: Manufacturer's standard materials and thickness selected in coordination with space heater to maintain winter interior temperature within operating limits required by engine generator components.
- I. Muffler Location: [Within] [External to] enclosure.

- J. Engine Cooling Airflow through Enclosure: Maintain temperature rise of system components within required limits when unit operates at 110 percent of rated load for 2 hours with ambient temperature at top of range specified in system service conditions.

Retain "Louvers" or "Automatic Dampers" Subparagraph below, or delete both and insert requirement. Some installations use a fixed louver for inlet or the exhaust and an automatic for the other. Mixing louver types is less costly and does not allow free air flow through the enclosure when the unit is not running, but it does lessen the effectiveness of space heaters in the enclosure. Consider specifying automatic dampers on both inlet and exhaust if space heaters are required. See Section 089116 "Operable Wall Louvers" and Section 089119 "Fixed Louvers" for engine generator, air-inlet and exhaust louvers.

1. Louvers: Fixed-engine, cooling-air inlet and discharge. Storm-proof and drainable louvers prevent entry of rain and snow.
2. Automatic Dampers: At engine cooling-air inlet and discharge. Dampers shall be closed to reduce enclosure heat loss in cold weather when unit is not operating.

Revise "Ventilation" Subparagraph below if forced ventilation rather than convection ventilation is required.

3. Ventilation: Provide temperature-controlled exhaust fan interlocked to prevent operation when engine is running.

Coordinate "Interior Lights with Switch" and "Convenience Outlets" paragraphs below with Drawings for lighting types and location and for supply circuits. Insert requirements for ventilation equipment, luminaires, devices, and covers to match components in facility. Verify availability if not retaining walk-in enclosure.

- K. Interior Lights with Switch: Factory-wired, vapor-proof fixtures within housing; arranged to illuminate controls and accessible interior. Arrange for external electrical connection.
1. AC lighting system and connection point for operation when remote source is available.
 2. DC lighting system for operation when remote source and generator are both unavailable.
- L. Convenience Outlets: Factory wired, GFCI. Arrange for external electrical connection.

2.11 REMOTE RADIATOR MOTORS

Retain this article for engine generators with remote radiators.

- A. Description: NEMA MG 1, Design B, medium induction random-wound, squirrel-cage motor.
- B. Efficiency: Energy efficient, as defined in NEMA MG 1.
- C. Service Factor: 1.15.
- D. Bearings: Regreasable, shielded, antifriction ball bearings suitable for radial and thrust loading.
- E. Motor Sizes: Minimum size as indicated. If not indicated, large enough so driven load will not require motor to operate in service factor range above 1.0.
- F. Temperature Rise: Match insulation rating.

G. Code Letter Designation:

Starting codes in first subparagraph below are adequate for most variable-torque loads encountered in HVAC applications; 15 hp is a common breakpoint in rating among manufacturers when Code F and Code G apply. Retain both subparagraphs and options below unless Project conditions or equipment characteristics dictate otherwise.

1. Motors [15] <Insert number> HP and Larger: NEMA starting Code F or Code G.
2. Motors Smaller Than [15] <Insert number> HP: Manufacturer's standard starting characteristic.

H. Enclosure Material: Cast iron for motor frame sizes 324T and larger; rolled steel for motor frame sizes smaller than 324T.

I. Controllers, Electrical Devices, and Wiring: Electrical devices and connections are specified in electrical Sections.

2.12 VIBRATION ISOLATION DEVICES

Note that natural rubber is not as oil resistant as other available materials and should not be specified if oil spillage is a problem in the vicinity of the generator. Minimum deflection should be verified with structural or seismic engineer.

A. Elastomeric Isolator Pads: Oil- and water-resistant elastomer or natural rubber, arranged in single or multiple layers, molded with a nonslip pattern and galvanized-steel baseplates of sufficient stiffness for uniform loading over pad area, and factory cut to sizes that match requirements of supported equipment.

See the Evaluations in Section 260548.16 "Seismic Controls for Electrical Systems" for a discussion on vibration and seismic-control devices. Pads in "Material" Subparagraph below come in standard neoprene, natural rubber, and bridge-bearing neoprene. Verify availability of various materials with manufacturers. Costs range from least to most expensive in the order presented below.

1. Material: [Standard neoprene] [Natural rubber] [Bridge-bearing neoprene, complying with AASHTO M 251] separated by steel shims.

Durometer values in "Shore 'A' Scale Durometer Rating" Subparagraph below range from 30 to 70 on the Shore "A" scale and are measures of hardness or, indirectly, deflection. Lower durometer values indicate softer material with more deflection. The durometer values needed is dependent on the weight of the generator and the number and contact area of pads used. Other factors also affect the selection but are fairly constant across all generators. Durometer values in the middle of the range in subparagraph below are most common. See manufacturer's data once generator characteristics are known before selecting the desired durometer rating. Pad selection may be different for generator normal vibration than is required to withstand and dampen seismic shock. Consult with manufacturer to choose materials suitable for both criteria.

2. Shore "A" Scale Durometer Rating: [30] [40] [45] [50] [60] [65] [70] <Insert number>.

Use multiple layers, separated by steel shims, depending on supported equipment load. See manufacturer's data for load capacities.

3. Number of Layers: **[One] [Two] [Three] [Four] <Insert number>**.
4. Minimum Deflection: **[1 inch] <Insert value>**.

Coordinate "Restrained Spring Isolators" Paragraph below with Drawings and with Section 260548.16 "Seismic Controls for Electrical Systems."

- B. Restrained Spring Isolators: Freestanding, steel, open-spring isolators with seismic restraint.
 1. Housing: Steel with resilient vertical-limit stops to prevent spring extension due to wind loads or if weight is removed; factory-drilled baseplate bonded to 1/4-inch-thick, elastomeric isolator pad attached to baseplate underside; and adjustable equipment mounting and leveling bolt that acts as blocking during installation.
 2. Outside Spring Diameter: Not less than 80 percent of compressed height of the spring at rated load.
 3. Minimum Additional Travel: 50 percent of required deflection at rated load.
 4. Lateral Stiffness: More than 80 percent of rated vertical stiffness.
 5. Overload Capacity: Support 200 percent of rated load, fully compressed, without deformation or failure.
 6. Minimum Deflection: **[1 inch] <Insert value>**.
- C. Comply with requirements in Section 232116 "Hydronic Piping Specialties" for vibration isolation and flexible connector materials for steel piping.
- D. Comply with requirements in Section 233113 "Metal Ducts" for vibration isolation and flexible connector materials for exhaust shroud and ductwork.
- E. Vibration isolation devices shall not be used to accommodate misalignments or to make bends.

2.13 FINISHES

- A. Indoor and Outdoor Enclosures and Components: Manufacturer's standard finish over corrosion-resistant pretreatment and compatible primer.

2.14 SOURCE QUALITY CONTROL

- A. Prototype Testing: Factory test engine generator using same engine model, constructed of identical or equivalent components and equipped with identical or equivalent accessories.
 1. Tests: Comply with IEEE 115[**and with NFPA 110, Level 1 Energy Converters**].

The project-specific equipment tests in the "Project-Specific Equipment Tests" Paragraph below are in addition to the prototype tests listed above. They do not test the unit under the full range of conditions as the above tests, but are useful to provide assurance that the specific unit supplied to the Project meets most of the critical parameters that can be tested without stressing the unit.

- B. Project-Specific Equipment Tests: Before shipment, factory test engine generator and other system components and accessories manufactured specifically for this Project. Perform tests at rated load and power factor. Include the following tests:

1. Test components and accessories furnished with installed unit that are not identical to those on tested prototype to demonstrate compatibility and reliability.
2. Test generator, exciter, and voltage regulator as a unit.
3. Full load run.
4. Maximum power.
5. Voltage regulation.
6. Transient and steady-state governing.
7. Single-step load pickup.
8. Safety shutdown.

Retain first subparagraph below if factory tests will be witnessed by Owner's representative.

9. Provide 14 days' advance notice of tests and opportunity for observation of tests by Owner's representative.

Coordinate subparagraph below with "Informational Submittals" Article.

10. Report factory test results within 10 days of completion of test.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas, equipment bases, and conditions, with Installer present, for compliance with requirements for installation and other conditions affecting packaged engine generator performance.
- B. Examine roughing-in for piping systems and electrical connections. Verify actual locations of connections before packaged engine generator installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

Delete "Interruption of Existing Electrical Service" Paragraph below if no interruption of existing electrical service is required.

- A. Interruption of Existing Electrical Service: Do not interrupt electrical service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary electrical service according to requirements indicated:
 1. Notify **[Architect]** **[Construction Manager]** **[Owner]** no fewer than **[two]** **<Insert number>** working days in advance of proposed interruption of electrical service.
 2. Do not proceed with interruption of electrical service without **[Architect's]** **[Construction Manager's]** **[Owner's]** written permission.

3.3 INSTALLATION

- A. Comply with NECA 1 and NECA 404.

- B. Comply with packaged engine generator manufacturers' written installation and alignment instructions[**and with NFPA 110**].

Verify, with Project participants, which concrete Section in the "Equipment Mounting" Paragraph below will be used for concrete pads and bases.

- C. Equipment Mounting:

Retain first subparagraph below to require equipment to be installed on cast-in-place concrete equipment bases.

1. Install packaged engine generators on cast-in-place concrete equipment bases. Comply with requirements for equipment bases and foundations specified in Section 033000 "Cast-in-Place Concrete."
2. Coordinate size and location of concrete bases for packaged engine generators[**and remote radiators mounted on grade**]. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified with concrete.

Retain one of two isolator options in second set of options in first subparagraph below for mounting equipment inside or to accommodate seismic mounting. NFPA 110 requires indoor Level 1 engine generators to be installed in a dedicated room with 1- or 2-hour fire rating. Indoor installations also require fuel storage within the building and large airflows for cooling and combustion. Consult NFPA 110 and authorities having jurisdiction for requirements. Verify minimum deflection with structural or seismic engineer.

3. Install [**packaged engine generator**] [**engine generator in a walk-in enclosure**] with [**elastomeric isolator pads**] [**restrained spring isolators**] having a minimum deflection of [**1 inch**] <Insert static deflection> on 4-inch-high concrete base. Secure [**engine generator**] [**enclosure**] to anchor bolts installed in concrete bases. Concrete base construction is specified in Section 260548.16 "Seismic Controls for Electrical Systems."
4. Remote Radiators:
 - a. Install remote radiator with [**elastomeric isolator pads**] [**restrained spring isolators**] on [**concrete base on grade**] [**roof equipment supports on roof**].

Retain subparagraph below for remote radiators located on roof.

- b. Coordinate size and location of roof curbs, equipment supports, and roof penetrations for remote radiators. These items are specified in Section 077200 "Roof Accessories."

- D. Install packaged engine generator to provide access, without removing connections or accessories, for periodic maintenance.

Delete "Cooling System" Paragraph below if radiator is not engine mounted.

- E. Cooling System: Install Schedule 40, black steel piping with welded joints for cooling water piping between engine generator and [**heat exchanger**] [**remote radiator**]. Piping materials and installation requirements are specified in Section 232113 "Hydronic Piping."
1. Install isolating thimbles where exhaust piping penetrates combustible surfaces. Provide a minimum of 9 inches clearance from combustibles.

2. Insulate cooling system piping and components according to requirements in Section 230719 "HVAC Piping Insulation."
- F. Exhaust System: Install Schedule 40, black steel piping with welded joints and connect to engine muffler. Install thimble at wall. Piping shall be same diameter as muffler outlet.
1. Install flexible connectors and steel piping materials according to requirements in Section 232116 "Hydronic Piping Specialties."
 2. Insulate muffler/silencer and exhaust system components according to requirements in Section 230719 "HVAC Piping Insulation."

See Section 077200 "Roof Accessories" for roof curbs, piping supports, and roof-penetration boots.

3. Install isolating thimbles where exhaust piping penetrates combustible surfaces with a minimum of 9-inch clearance from combustibles.

Coordinate first paragraph below with Drawings.

- G. Drain Piping: Install condensate drain piping to muffler drain outlet with a shutoff valve, stainless-steel flexible connector, and Schedule 40, black steel pipe, the full size of the drain connection, with welded joints.
- H. Gaseous Fuel Piping:
1. Natural gas piping, valves, and specialties for gas distribution are specified in Section 231123 "Facility Natural Gas Piping."
 2. LP gas piping, valves, and specialties for gas piping are specified in Section 231126 "Facility Liquefied-Petroleum Gas Piping."
- I. Electrical Wiring: Install electrical devices furnished by equipment manufacturers but not specified to be factory mounted.

3.4 CONNECTIONS

Coordinate piping installations and specialty arrangements with Drawings and with requirements specified in piping systems. If Drawings are explicit enough, these requirements may be reduced or omitted.

- A. Piping installation requirements are specified in other Sections. Drawings indicate general arrangement of piping and specialties.
- B. Connect fuel, cooling-system, and exhaust-system piping adjacent to packaged engine generator to allow service and maintenance.

Coordinate first two paragraphs below with Section 230719 "HVAC Piping Insulation."

Coordinate first paragraph below with Section 232116 "Hydronic Piping Specialties."

- C. Connect cooling-system water piping to engine generator and [remote radiator] [heat exchanger] with flexible connectors.

- D. Connect engine exhaust pipe to engine with flexible connector.
- E. Gaseous Fuel Connections:
 - 1. Connect fuel piping to engines with a gate valve and union and flexible connector.
 - 2. Install manual shutoff valve in a remote location to isolate gaseous fuel supply to the generator.
 - 3. Vent gas pressure regulators outside building a minimum of 60 inches from building openings.
- F. Ground equipment according to Section 260526 "Grounding and Bonding for Electrical Systems."
- G. Connect wiring according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables." Provide a minimum of one 90-degree bend in flexible conduit routed to the engine generator from a stationary element.
- H. Balance single-phase loads to obtain a maximum of 10 percent unbalance between any two phases.

3.5 IDENTIFICATION

- A. Identify system components according to Section 230553 "Identification for HVAC Piping and Equipment" and Section 260553 "Identification for Electrical Systems."

Retain first paragraph below if generator is not installed as a separately derived system.

- B. Install a sign indicating the generator neutral is bonded to the main service neutral at the main service location.

3.6 FIELD QUALITY CONTROL

- A. Testing Agency:

Retain one of first four subparagraphs below. Retain first subparagraph below if Owner will hire an independent testing agency. Retain second subparagraph below to require Contractor to hire an independent testing agency. Retain third subparagraph below to require a factory-authorized service representative to perform tests and inspections. Retain fourth subparagraph below to require Contractor to perform tests and inspections and, if required, retain option to require Contractor to arrange for the assistance of a factory-authorized service agent.

- 1. Owner will engage a qualified testing agency to perform tests and inspections.
- 2. Engage a qualified testing agency to perform tests and inspections.
- 3. Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.
- 4. Perform tests and inspections[**with the assistance of a factory-authorized service representative**].

- B. Tests and Inspections:

Retain test requirements below with any combination of paragraphs above. The following tests and inspections are derived from the NETA Acceptance Testing Specification (ATS). Review the NETA ATS and other standards listed and revise subparagraphs below.

1. Perform tests recommended by manufacturer and each visual and mechanical inspection and electrical and mechanical test listed in the first two subparagraphs below as specified in the NETA ATS. Certify compliance with test parameters.
 - a. Visual and Mechanical Inspection:
 - 1) Compare equipment nameplate data with drawings and specifications.
 - 2) Inspect physical and mechanical condition.
 - 3) Inspect anchorage, alignment, and grounding.
 - 4) Verify the unit is clean.
 - b. Electrical and Mechanical Tests:
 - 1) Perform insulation-resistance tests in accordance with IEEE 43.
 - a) Machines larger than 200 hp. Test duration shall be 10 minutes. Calculate polarization index.
 - b) Machines 200 hp or less. Test duration shall be one minute. Calculate the dielectric-absorption ratio.
 - 2) Test protective relay devices.
 - 3) Verify phase rotation, phasing, and synchronized operation as required by the application.
 - 4) Functionally test engine shutdown for low oil pressure, overtemperature, overspeed, and other protection features as applicable.

Test in first subparagraph below is optional in NETA ATS.

- 5) Perform vibration test for each main bearing cap.
 - 6) Verify correct functioning of the governor and regulator.
2. NFPA 110 Acceptance Tests: Perform tests required by NFPA 110 that are additional to those specified here, including, but not limited to, single-step full-load pickup test.
3. Battery Tests: Equalize charging of battery cells according to manufacturer's written instructions. Record individual cell voltages.
 - a. Measure charging voltage and voltages between available battery terminals for full-charging and float-charging conditions. Check electrolyte level and specific gravity under both conditions.
 - b. Test for contact integrity of all connectors. Perform an integrity load test and a capacity load test for the battery.
 - c. Verify acceptance of charge for each element of the battery after discharge.
 - d. Verify that measurements are within manufacturer's specifications.
4. Battery-Charger Tests: Verify specified rates of charge for both equalizing and float-charging conditions.

5. System Integrity Tests: Methodically verify proper installation, connection, and integrity of each element of engine generator system before and during system operation. Check for air, exhaust, and fluid leaks.

Retain "Exhaust-System Back-Pressure Test" Subparagraph below for long, restricted exhaust systems.

6. Exhaust-System Back-Pressure Test: Use a manometer with a scale exceeding 40-inch wg. Connect to exhaust line close to engine exhaust manifold. Verify that back pressure at full-rated load is within manufacturer's written allowable limits for the engine.

Verify local requirements and delete "Exhaust Emissions Test" Subparagraph below for most projects. Few jurisdictions require this test for emergency or standby engine generators. See the Evaluations for discussion of Tier requirements.

7. Exhaust Emissions Test: Comply with applicable government test criteria.
8. Voltage and Frequency Transient Stability Tests: Use recording oscilloscope to measure voltage and frequency transients for 50 and 100 percent step-load increases and decreases, and verify that performance is as specified.
9. Harmonic-Content Tests: Measure harmonic content of output voltage at 25 percent and 100 percent of rated linear load. Verify that harmonic content is within specified limits.

Retain "Noise Level Tests" Subparagraph below for projects subject to unwanted or illegal generator-set noise intrusion into adjacent properties or activities. Coordinate with Drawings and with requirements in "Action Submittals," "Quality Assurance," and "Engine Generator Assembly Description" articles. Note that some noise, such as the muffler noise, is directional and siting the generator can have a large impact on the measured noise in some directions. See the Evaluations for additional discussion of noise concerns.

10. Noise Level Tests: Measure A-weighted level of noise emanating from generator-set installation, including engine exhaust and cooling-air intake and discharge, at **[four] <Insert number> locations [25 feet from edge of the generator enclosure] [on the property line] <Insert location for measurement>**, and compare measured levels with required values.
- C. Coordinate tests with tests for transfer switches and run them concurrently.
 - D. Test instruments shall have been calibrated within the last 12 months, traceable to NIST Calibration Services, and adequate for making positive observation of test results. Make calibration records available for examination on request.
 - E. Leak Test: After installation, charge exhaust, coolant, and fuel systems and test for leaks. Repair leaks and retest until no leaks exist.
 - F. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation for generator and associated equipment.
 - G. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
 - H. Remove and replace malfunctioning units and **[retest] [reinspect]** as specified above.
 - I. Retest: Correct deficiencies identified by tests and observations and retest until specified requirements are met.

- J. Report results of tests and inspections in writing. Record adjustable relay settings and measured insulation resistances, time delays, and other values and observations. Attach a label or tag to each tested component indicating satisfactory completion of tests.
- K. Infrared Scanning: After Substantial Completion, but not more than 60 days after final acceptance, perform an infrared scan of each power wiring termination and each bus connection while running with maximum load. Remove all access panels so terminations and connections are accessible to portable scanner.
 - 1. Follow-up Infrared Scanning: Perform an additional follow-up infrared scan 11 months after date of Substantial Completion.
 - 2. Instrument: Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.
 - 3. Record of Infrared Scanning: Prepare a certified report that identifies terminations and connections checked and that describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

3.7 MAINTENANCE SERVICE

Retain this article for critical installations and consider including a provision for submitting a continuing maintenance agreement proposal. Revise starting date if required. Obtain a copy of maintenance agreement before retaining or editing below. Maintenance contracts may not be allowed for publicly funded projects.

- A. Initial Maintenance Service: Beginning at Substantial Completion, provide [12] <Insert number> months' full maintenance by skilled employees of manufacturer's designated service organization. Include quarterly exercising to check for proper starting, load transfer, and running under load. Include routine preventive maintenance as recommended by manufacturer and adjusting as required for proper operation. Provide parts and supplies same as those used in the manufacture and installation of original equipment.

3.8 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain packaged engine generators.

END OF SECTION 263213.16

SECTION 263600 - TRANSFER SWITCHES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Contactor-type automatic transfer switches.
2. Molded-case-type automatic transfer switches.
3. Transfer switch accessories.

1.2 ACTION SUBMITTALS

A. Product Data:

1. Contactor-type automatic transfer switches.
2. Molded-case-type automatic transfer switches.
3. Transfer switch accessories.

B. Product Data Submittals: For each product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for transfer switches.
2. Include rated capacities, operating characteristics, electrical characteristics, and accessories.

C. Shop Drawings:

1. Include plans, elevations, sections, details showing minimum clearances, conductor entry provisions, gutter space, and installed features and devices.
2. Include material lists for each switch specified.
3. Single-Line Diagram: Show connections between transfer switch, power sources, and load; and show interlocking provisions for each combined transfer switch and bypass/isolation switch.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For manufacturer-authorized service representative.

B. Field quality-control reports.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For each type of product to include in emergency, operation, and maintenance manuals.
 - 1. In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:
 - a. Features and operating sequences, both automatic and manual.
 - b. List of all factory settings of relays; provide relay-setting and calibration instructions, including software, where applicable.

1.5 QUALITY ASSURANCE

- A. Testing Agency Qualifications:
 - 1. Member company of NETA.
 - a. Testing Agency's Field Supervisor: Certified by NETA to supervise on-site testing.

1.6 FIELD CONDITIONS

- A. Interruption of Existing Electrical Service: Do not interrupt electrical service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary electrical service:
 - 1. Notify Owner no fewer than two days in advance of proposed interruption of electrical service.
 - 2. Do not proceed with interruption of electrical service without Owner's written permission.

1.7 WARRANTY

- A. Manufacturer's Warranty: Manufacturer agrees to repair or replace components of transfer switch or transfer switch components that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: 12 months from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with NEMA ICS 1.
- C. Comply with NFPA 99.
- D. Comply with NFPA 110.
- E. Comply with UL 1008 unless requirements of these Specifications are stricter.
- F. Indicated Current Ratings: Apply as defined in UL 1008 for continuous loading and total system transfer, including tungsten filament lamp loads not exceeding 30 percent of switch ampere rating, unless otherwise indicated.
- G. Tested Fault-Current Closing and Short-Circuit Ratings: Adequate for duty imposed by protective devices at installation locations in Project under the fault conditions indicated, based on testing according to UL 1008.
 - 1. Where transfer switch includes internal fault-current protection, rating of switch and trip unit combination shall exceed indicated fault-current value at installation location.
 - 2. Short-time withstand capability for 30 cycles.
- H. Repetitive Accuracy of Solid-State Controls: All settings shall be plus or minus 2 percent or better over an operating temperature range of minus 20 to plus 70 deg C.
- I. Resistance to Damage by Voltage Transients: Components shall meet or exceed voltage-surge withstand capability requirements when tested according to IEEE C62.62. Components shall meet or exceed voltage-impulse withstand test of NEMA ICS 1.
- J. Electrical Operation: Accomplish by a nonfused, momentarily energized solenoid or electric-motor-operated mechanism. Switches for emergency or standby purposes shall be mechanically and electrically interlocked in both directions to prevent simultaneous connection to both power sources unless closed transition.
- K. Neutral Switching: Where four-pole switches are indicated, provide neutral pole switched simultaneously with phase poles.
- L. Neutral Terminal: Solid and fully rated unless otherwise indicated.
- M. Battery Charger: For generator starting batteries.
 - 1. Ammeter to display charging current.
 - 2. Fused ac inputs and dc outputs.

- N. Annunciation, Control, and Programming Interface Components: Devices at transfer switches for communicating with remote programming devices, annunciators, or annunciator and control panels shall have communication capability matched with remote device.
- O. Factory Wiring: Train and bundle factory wiring and label, consistent with Shop Drawings, by color-code or by numbered or lettered wire and cable shrinkable sleeve markers at terminations. Color-coding and wire and cable markers are specified in Section 260553 "Identification for Electrical Systems."
 - 1. Designated Terminals: Pressure type, suitable for types and sizes of field wiring indicated.
 - 2. Power-Terminal Arrangement and Field-Wiring Space: Suitable for top, side, or bottom entrance of feeder conductors as indicated.
 - 3. Control Wiring: Equipped with lugs suitable for connection to terminal strips.
 - 4. Accessible via front access.
- P. Enclosures: General-purpose NEMA 250, Type 1, complying with NEMA ICS 6 and UL 508, unless otherwise indicated.

2.2 CONTACTOR-TYPE AUTOMATIC TRANSFERSWITCHES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. ABB, Electrification Business.
 - 2. ASCO Power Technologies.
 - 3. Caterpillar, Inc.; Electric Power Division.
 - 4. Cummins Power Generation.
 - 5. Generac.
 - 6. Kohler Power Systems.
- B. Comply with Level 1 equipment according to NFPA 110.
- C. Switch Characteristics: Designed for continuous-duty repetitive transfer of full-rated current between active power sources.
 - 1. Limitation: Switches using molded-case switches or circuit breakers or insulated-case circuit-breaker components are unacceptable.
 - 2. Switch Action: Double throw; mechanically held in both directions.
 - 3. Contacts: Silver composition or silver alloy for load-current switching. Contactor-style automatic transfer-switch units, rated 600 A and higher, shall have separate arcing contacts.
 - 4. Conductor Connectors: Suitable for use with conductor material and sizes.
 - 5. Material: Tin-plated aluminum.
 - 6. Main and Neutral Lugs: Compression type.
 - 7. Ground Lugs and Bus-Configured Terminators: Compression type.
 - 8. Ground bar.

9. Connectors shall be marked for conductor size and type according to UL 1008.
- D. Automatic Open-Transition Transfer Switches: Interlocked to prevent the load from being closed on both sources at the same time.
 1. Sources shall be mechanically and electrically interlocked to prevent closing both sources on the load at the same time.
- E. Electric Nonautomatic Switch Operation: Electrically actuated by push buttons designated "Normal Source" and "Alternative Source." Switch shall be capable of transferring load in either direction with either or both sources energized.
- F. Signal-Before-Transfer Contacts: A set of normally open/normally closed dry contacts operates in advance of retransfer to normal source. Interval shall be adjustable from 1 to 30 seconds.
- G. Digital Communication Interface: Matched to capability of remote annunciator or annunciator and control panel.
- H. Automatic Transfer-Switch Controller Features:
 1. Controller operates through a period of loss of control power.
 2. Undervoltage Sensing for Each Phase of Normal Source: Sense low phase-to-ground voltage on each phase. Pickup voltage shall be adjustable from 85 to 100 percent of nominal, and dropout voltage shall be adjustable from 75 to 98 percent of pickup value. Factory set for pickup at 90 percent and dropout at 85 percent.
 3. Voltage/Frequency Lockout Relay: Prevent premature transfer to generator. Pickup voltage shall be adjustable from 85 to 100 percent of nominal. Factory set for pickup at 90 percent. Pickup frequency shall be adjustable from 90 to 100 percent of nominal. Factory set for pickup at 95 percent.
 4. Time Delay for Retransfer to Normal Source: Adjustable from zero to 30 minutes, and factory set for 10 minutes. Override shall automatically defeat delay on loss of voltage or sustained undervoltage of emergency source, provided normal supply has been restored.
 5. Test Switch: Simulate normal-source failure.
 6. Switch-Position Pilot Lights: Indicate source to which load is connected.
 7. Source-Available Indicating Lights: Supervise sources via transfer-switch normal- and emergency-source sensing circuits.
 - a. Normal Power Supervision: Green light with nameplate engraved "Normal Source Available."
 - b. Emergency Power Supervision: Red light with nameplate engraved "Emergency Source Available."
 8. Unassigned Auxiliary Contacts: Two normally open, single-pole, double-throw contacts for each switch position, rated 10 A at 240-V ac.
 9. Transfer Override Switch: Overrides automatic retransfer control so transfer switch will remain connected to emergency power source regardless of condition of normal source. Pilot light indicates override status.

10. Engine Starting Contacts: One isolated and normally closed, and one isolated and normally open; rated 10 A at 32-V dc minimum.
11. Engine Shutdown Contacts:
 - a. Time delay adjustable from zero to five minutes, and factory set for five minutes. Contacts shall initiate shutdown at remote engine-generator controls after retransfer of load to normal source.
12. Engine-Generator Exerciser: Solid-state, programmable-time switch starts engine generator and transfers load to it from normal source for a preset time, then retransfers and shuts down engine after a preset cool-down period. Initiates exercise cycle at preset intervals adjustable from 7 to 30 days. Running periods shall be adjustable from 10 to 30 minutes. Factory settings shall be for 7-day exercise cycle, 20-minute running period, and 5-minute cool-down period. Exerciser features include the following:
 - a. Exerciser Transfer Selector Switch: Permits selection of exercise with and without load transfer.
 - b. Push-button programming control with digital display of settings.
 - c. Integral battery operation of time switch when normal control power is unavailable.

2.3 TRANSFER SWITCH ACCESSORIES

A. Remote Annunciator System:

1. Source Limitations: Same manufacturer as transfer switch in which installed.
2. Functional Description: Remote annunciator panel shall annunciate conditions for indicated transfer switches.
3. Annunciation panel display shall include the following indicators:
 - a. Sources available, as defined by actual pickup and dropout settings of transfer-switch controls.
 - b. Switch position.
 - c. Switch in test mode.
 - d. Failure of communication link.
4. Annunciator Panel: LED-lamp type with audible signal and silencing switch.
 - a. Indicating Lights: Grouped for each transfer switch monitored.
 - b. Label each group, indicating transfer switch it monitors, location of switch, and identity of load it serves.
 - c. Mounting: Flush, modular, steel cabinet unless otherwise indicated.
 - d. Lamp Test: Push-to-test or lamp-test switch on front panel.

2.4 SOURCE QUALITY CONTROL

- A. Factory Tests: Test and inspect components, assembled switches, and associated equipment according to UL 1008. Ensure proper operation. Check transfer time and voltage, frequency, and time-delay settings for compliance with specified requirements. Perform dielectric strength test complying with NEMA ICS 1.
- B. Prepare test and inspection reports.
 - 1. For each of the tests required by UL 1008, performed on representative devices, for emergency systems. Include results of test for the following conditions:
 - a. Overvoltage.
 - b. Undervoltage.
 - c. Loss of supply voltage.
 - d. Reduction of supply voltage.
 - e. Alternative supply voltage or frequency is at minimum acceptable values.
 - f. Temperature rise.
 - g. Dielectric voltage-withstand; before and after short-circuit test.
 - h. Overload.
 - i. Contact opening.
 - j. Endurance.
 - k. Short circuit.
 - l. Short-time current capability.
 - m. Receptacle withstand capability.
 - n. Insulating base and supports damage.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Annunciator and Control Panel Mounting: Surface mount unless otherwise indicated.
- B. Identify components according to Section 260553 "Identification for Electrical Systems."
- C. Set field-adjustable intervals and delays, relays, and engine exerciser clock.
- D. Comply with NECA 1.

3.2 CONNECTIONS

- A. Wiring to Remote Components: Match type and number of cables and conductors to generator sets, control, and communication requirements of transfer switches as recommended by manufacturer. Increase raceway sizes at no additional cost to Owner if necessary to accommodate required wiring.

- B. Wiring Method: Install cables in raceways and cable trays except within electrical enclosures. Conceal raceway and cables except in unfinished spaces.
 - 1. Comply with requirements for raceways specified in Section 260533.13 "Conduits for Electrical Systems."
- C. Wiring within Enclosures: Bundle, lace, and train conductors to terminal points with no excess and without exceeding manufacturer's limitations on bending radii.
- D. Ground equipment according to Section 260526 "Grounding and Bonding for Electrical Systems."
- E. Connect wiring according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables."
- F. Route and brace conductors according to manufacturer's written instructions. Do not obscure manufacturer's markings and labels.
- G. Final connections to equipment shall be made with liquidtight, flexible metallic conduit no more than 18 inches in length.

3.3 FIELD QUALITY CONTROL

- A. Administrant for Tests and Inspections:
 - 1. Administer and perform tests and inspections.
- B. Tests and Inspections:
 - 1. After installing equipment, test for compliance with requirements according to NETA ATS.
 - 2. Visual and Mechanical Inspection:
 - a. Compare equipment nameplate data with Drawings and Specifications.
 - b. Inspect physical and mechanical condition.
 - c. Inspect anchorage, alignment, grounding, and required clearances.
 - d. Verify that the unit is clean.
 - e. Verify appropriate lubrication on moving current-carrying parts and on moving and sliding surfaces.
 - f. Verify that manual transfer warnings are attached and visible.
 - g. Verify tightness of all control connections.
 - h. Inspect bolted electrical connections for high resistance using one of the following methods, or both:
 - 1) Use of low-resistance ohmmeter.
 - 2) Verify tightness of accessible bolted electrical connections by calibrated torque-wrench method according to manufacturer's published data.

- i. Perform manual transfer operation.
 - j. Verify positive mechanical interlocking between normal and alternate sources.
 - k. Perform visual and mechanical inspection of surge arresters.
 - l. Inspect control power transformers.
 - 1) Inspect for physical damage, cracked insulation, broken leads, tightness of connections, defective wiring, and overall general condition.
 - 2) Verify that primary and secondary fuse or circuit-breaker ratings match Drawings.
 - 3) Verify correct functioning of drawout disconnecting contacts, grounding contacts, and interlocks.
3. Electrical Tests:
- a. Perform insulation-resistance tests on all control wiring with respect to ground.
 - b. Perform a contact/pole-resistance test. Compare measured values with manufacturer's acceptable values.
 - c. Verify settings and operation of control devices.
 - d. Calibrate and set all relays and timers.
 - e. Verify phase rotation, phasing, and synchronized operation.
 - f. Perform automatic transfer tests.
 - g. Verify correct operation and timing of the following functions:
 - 1) Normal source voltage-sensing and frequency-sensing relays.
 - 2) Engine start sequence.
 - 3) Time delay on transfer.
 - 4) Alternative source voltage-sensing and frequency-sensing relays.
 - 5) Automatic transfer operation.
 - 6) Interlocks and limit switch function.
 - 7) Time delay and retransfer on normal power restoration.
 - 8) Engine cool-down and shutdown feature.
4. Measure insulation resistance phase-to-phase and phase-to-ground with insulation-resistance tester. Include external annunciation and control circuits. Use test voltages and procedure recommended by manufacturer. Comply with manufacturer's specified minimum resistance.
- a. Check for electrical continuity of circuits and for short circuits.
 - b. Inspect for physical damage, proper installation and connection, and integrity of barriers, covers, and safety features.
 - c. Verify that manual transfer warnings are properly placed.
 - d. Perform manual transfer operation.
5. After energizing circuits, perform each electrical test for transfer switches stated in NETA AATS and demonstrate interlocking sequence and operational function for each switch at least three times.

- a. Simulate power failures of normal source to automatic transfer switches and retransfer from emergency source with normal source available.
 - b. Simulate loss of phase-to-ground voltage for each phase of normal source.
 - c. Verify time-delay settings.
 - d. Verify pickup and dropout voltages by data readout or inspection of control settings.
 - e. Test bypass/isolation unit functional modes and related automatic transfer-switch operations.
 - f. Verify proper sequence and correct timing of automatic engine starting, transfer time delay, retransfer time delay on restoration of normal power, and engine cool-down and shutdown.
- 6. Ground-Fault Tests: Coordinate with testing of ground-fault protective devices for power delivery from both sources.
 - a. Verify grounding connections and locations and ratings of sensors.
- C. Coordinate tests with tests of generator and run them concurrently.
- D. Report results of tests and inspections in writing. Record adjustable relay settings and measured insulation and contact resistances and time delays. Attach a label or tag to each tested component indicating satisfactory completion of tests.
- E. Transfer switches will be considered defective if they do not pass tests and inspections.
- F. Remove and replace malfunctioning units and retest as specified above.
- G. Prepare test and inspection reports.

3.4 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain transfer switches and related equipment.
- B. Training shall include testing ground-fault protective devices and instructions to determine when the ground-fault system shall be retested. Include instructions on where ground-fault sensors are located and how to avoid negating the ground-fault protection scheme during testing and circuit modifications.
- C. Coordinate this training with that for generator equipment.

END OF SECTION 263600

SECTION 31 50 00 - EXCAVATION SUPPORT AND PROTECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes temporary excavation support and protection systems.
- B. Related Requirements:
 - 1. Section 31 20 00 "Earth Moving" for excavating and backfilling, for controlling surface-water runoff and ponding, and for dewatering excavations.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review geotechnical report.
 - 2. Review existing utilities and subsurface conditions.
 - 3. Review coordination for interruption, shutoff, capping, and continuation of utility services.
 - 4. Review proposed excavations.
 - 5. Review proposed equipment.
 - 6. Review monitoring of excavation support and protection system.
 - 7. Review coordination with waterproofing.
 - 8. Review abandonment or removal of excavation support and protection system.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, performance properties, and dimensions of individual components and profiles, and calculations for excavation support and protection system.
- B. Shop Drawings: For excavation support and protection system, prepared by or under the supervision of a qualified professional engineer.

1. Include plans, elevations, sections, and details.
 2. Show arrangement, locations, and details of soldier piles, piling, lagging, tiebacks, bracing, and other components of excavation support and protection system according to engineering design.
 3. Indicate type and location of waterproofing.
 4. Include a written plan for excavation support and protection, including sequence of construction of support and protection coordinated with progress of excavation.
- C. Delegated-Design Submittal: For excavation support and protection systems, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For the following:
1. Land surveyor.
 2. Professional Engineer: Experience with providing delegated-design engineering services of the type indicated, including documentation that engineer is licensed in the state in which Project is located.
- B. Contractor Calculations: For excavation support and protection system. Include analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- C. Existing Conditions: Using photographs and video recordings, show existing conditions of adjacent construction and site improvements that might be misconstrued as damage caused by inadequate performance of excavation support and protection systems. Submit before Work begins.

1.6 CLOSEOUT SUBMITTALS

- A. Record Drawings: Identify locations and depths of capped utilities, abandoned-in-place support and protection systems, and other subsurface structural, electrical, or mechanical conditions.

1.7 FIELD CONDITIONS

- A. Interruption of Existing Utilities: Do not interrupt any utility-serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility according to requirements indicated:
1. Notify Owner no fewer than seven days in advance of proposed interruption of utility.
 2. Do not proceed with interruption of utility without Owner's written permission.

- B. Survey Work: Engage a qualified land surveyor or professional engineer to survey adjacent existing buildings, structures, and site improvements; establish exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks, and record existing elevations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design excavation support and protection systems to resist all lateral loading and surcharge, including but not limited to, retained soil, groundwater pressure, adjacent building loads, adjacent traffic loads, construction traffic loads, material stockpile loads, and seismic loads, based on the following:
 - 1. Compliance with OSHA Standards and interpretations, 29 CFR 1926, Subpart P.
 - 2. Compliance with AASHTO Standard Specification for Highway Bridges or AASHTO LRFD Bridge Design Specification, Customary U.S. Units.
 - 3. Compliance with requirements of authorities having jurisdiction.
 - 4. Compliance with utility company requirements.
 - 5. Compliance with railroad requirements.

2.2 MATERIALS

- A. Provide materials that are either new or in serviceable condition.
- B. Structural Steel: ASTM A36/A36M, ASTM A690/A690M, or ASTM A992/A992M.
- C. Steel Sheet Piling: ASTM A328/A328M, ASTM A572/A572M, or ASTM A690/A690M; with continuous interlocks.
- D. Wood Lagging: Lumber, mixed hardwood, nominal rough thickness of size and strength required for application.
- E. Cast-in-Place Concrete: ACI 301, of compressive strength required for application.
- F. Reinforcing Bars: ASTM A615/A615M, Grade 60, deformed.
- G. Tiebacks: Steel bars, ASTM A722/A722M.
- H. Tiebacks: Steel strand, ASTM A416/A416M.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards that could develop during excavation support and protection system operations.
 - 1. Shore, support, and protect utilities encountered.

3.2 INSTALLATION - GENERAL

- A. Locate excavation support and protection systems clear of permanent construction, so that construction and finishing of other work is not impeded.
- B. Install excavation support and protection systems to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 - 2. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
- C. Install excavation support and protection systems without damaging existing buildings, structures, and site improvements adjacent to excavation.

3.3 SOLDIER PILES AND LAGGING

- A. Install steel soldier piles before starting excavation.
 - 1. Extend soldier piles below excavation grade level to depths adequate to prevent lateral movement.
 - 2. Space soldier piles at regular intervals not to exceed allowable flexural strength of wood lagging.
 - 3. Accurately align exposed faces of flanges to vary not more than 2 inches from a horizontal line and not more than 1:120 out of vertical alignment.
- B. Install wood lagging within flanges of soldier piles as excavation proceeds.
 - 1. Trim excavation as required to install lagging.
 - 2. Fill voids behind lagging with soil, and compact.
- C. Install wales horizontally at locations indicated on Drawings and secure to soldier piles.

3.4 SHEET PILING

- A. Before starting excavation, install one-piece sheet piling lengths and tightly interlock vertical edges to form a continuous barrier.
- B. Accurately place the piling using templates and guide frames unless otherwise recommended in writing by the sheet piling manufacturer.
 - 1. Limit vertical offset of adjacent sheet piling to 60 inches.
 - 2. Accurately align exposed faces of sheet piling to vary not more than 2 inches from a horizontal line and not more than 1:120 out of vertical alignment.
- C. Cut tops of sheet piling to uniform elevation at top of excavation.

3.5 TIEBACKS

- A. Drill, install, grout, and tension tiebacks.
- B. Test load-carrying capacity of each tieback, and replace and retest deficient tiebacks.
 - 1. Have test loading observed by a qualified professional engineer responsible for design of excavation support and protection system.
- C. Maintain tiebacks in place until permanent construction is able to withstand lateral earth and hydrostatic pressures.

3.6 BRACING

- A. Locate bracing to clear columns, floor framing construction, and other permanent work. If necessary to move brace, install new bracing before removing original brace.
 - 1. Do not place bracing where it will be cast into or included in permanent concrete work unless otherwise approved by Architect.
 - 2. Install internal bracing if required to prevent spreading or distortion of braced frames.
 - 3. Maintain bracing until structural elements are supported by other bracing or until permanent construction is able to withstand lateral earth and hydrostatic pressures.

3.7 MAINTENANCE

- A. Monitor and maintain excavation support and protection system.
- B. Prevent surface water from entering excavations by grading, dikes, or other means.
- C. Continuously monitor vibrations, settlements, and movements to ensure stability of excavations and constructed slopes and to ensure that damage to permanent structures is prevented.

3.8 FIELD QUALITY CONTROL

- A. Survey-Work Benchmarks: Resurvey benchmarks regularly during installation of excavation support and protection systems, excavation progress, and for as long as excavation remains open.
 - 1. Maintain an accurate log of surveyed elevations and positions for comparison with original elevations and positions.
 - 2. Promptly notify Architect if changes in elevations or positions occur or if cracks, sags, or other damage is evident in adjacent construction.
- B. Promptly correct detected bulges, breakage, or other evidence of movement to ensure that excavation support and protection system remains stable.
- C. Promptly repair damages to adjacent facilities caused by installation or faulty performance of excavation support and protection systems.

3.9 REMOVAL AND REPAIRS

- A. Remove excavation support and protection systems when construction has progressed sufficiently to support excavation and earth and hydrostatic pressures.
 - 1. Remove in stages to avoid disturbing underlying soils and rock or damaging structures, pavements, facilities, and utilities.
 - 2. Remove excavation support and protection systems to a minimum depth of 48 inches below overlying construction, and abandon remainder.
 - 3. Fill voids immediately with approved backfill compacted to density specified in Section 31 20 00 "Earth Moving."
 - 4. Repair or replace, as approved by Architect, adjacent work damaged or displaced by removing excavation support and protection systems.

END OF SECTION 31 50 00

SECTION 31 10 00 - SITE CLEARING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Protecting existing vegetation to remain.
 - 2. Removing existing vegetation.
 - 3. Clearing and grubbing.
 - 4. Stripping and stockpiling topsoil.
 - 5. Stripping and stockpiling rock.
 - 6. Removing above- and below-grade site improvements.
 - 7. Disconnecting, capping or sealing, and removing site utilities abandoning site utilities in place.
 - 8. Temporary erosion and sedimentation control.

1.3 DEFINITIONS

- A. Subsoil: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally occurring soil profile, typified by less than 1 percent organic matter and few soil organisms.
- B. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, surface soil is typically called "topsoil," but in disturbed areas such as urban environments, the surface soil can be subsoil.
- C. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil; the zone where plant roots grow. Its appearance is generally friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects larger than 2 inches in diameter; and free of weeds, roots, toxic materials, or other nonsoil materials.
- D. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction and indicated on Drawings.
- E. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction and indicated on Drawings.

- F. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.4 MATERIAL OWNERSHIP

- A. Except for materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.5 INFORMATIONAL SUBMITTALS

- A. Existing Conditions: Documentation of existing trees and plantings, adjoining construction, and site improvements that establishes preconstruction conditions that might be misconstrued as damage caused by site clearing.
 - 1. Use sufficiently detailed photographs or video recordings.
 - 2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plant designated to remain.
- B. Topsoil stripping and stockpiling program.
- C. Rock stockpiling program.
- D. Record Drawings: Identifying and accurately showing locations of capped utilities and other subsurface structural, electrical, and mechanical conditions.

1.6 FIELD CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 - 2. Provide alternate routes around closed or obstructed trafficways if required by Owner or authorities having jurisdiction.
- B. Improvements on Adjoining Property: Authority for performing site clearing indicated on property adjoining Owner's property will be obtained by Owner before award of Contract.
 - 1. Do not proceed with work on adjoining property until directed by Architect.
- C. Salvageable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated.
- D. Utility Locator Service: Notify MISS DIG for area where Project is located before site clearing.
- E. Do not commence site clearing operations until temporary erosion- and sedimentation-control measures are in place.

- F. Tree- and Plant-Protection Zones: Protect according to requirements in Section 015639 "Temporary Tree and Plant Protection."
- G. Soil Stripping, Handling, and Stockpiling: Perform only when the soil is dry or slightly moist.

PART 2 - EXECUTION

2.1 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
- B. Verify that trees, shrubs, and other vegetation to remain or to be relocated have been flagged and that protection zones have been identified and enclosed according to requirements in Section 015639 "Temporary Tree and Plant Protection."
- C. Protect existing site improvements to remain from damage during construction.
 - 1. Restore damaged improvements to their original condition, as acceptable to Owner.

2.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings and requirements of authorities having jurisdiction.
- B. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.
- C. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
- D. Remove erosion and sedimentation controls, and restore and stabilize areas disturbed during removal.

2.3 TREE AND PLANT PROTECTION

- A. Protect trees and plants remaining on-site according to requirements in Section 015639 "Temporary Tree and Plant Protection."
- B. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations according to requirements in Section 015639 "Temporary Tree and Plant Protection."

2.4 EXISTING UTILITIES

- A. Owner will arrange for disconnecting and sealing indicated utilities that serve existing structures before site clearing, when requested by Contractor.
 - 1. Verify that utilities have been disconnected and capped before proceeding with site clearing.
- B. Locate, identify, disconnect, and seal or cap utilities indicated to be removed.
 - 1. Owner will arrange to shut off indicated utilities when requested by Contractor.
- C. Locate, identify, and disconnect utilities indicated to be abandoned in place.
- D. Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others, unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Architect not less than two days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Architect's written permission.
- E. Excavate for and remove underground utilities indicated to be removed.
- F. Removal of underground utilities is included in earthwork sections; in applicable fire suppression, plumbing, HVAC, electrical, communications, electronic safety and security, and utilities sections; and in Section 024116 "Structure Demolition" and Section 024119 "Selective Demolition."

2.5 CLEARING AND GRUBBING

- A. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.
 - 1. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.
 - 2. Grind down stumps and remove roots larger than 2 inches in diameter, obstructions, and debris to a depth of 18 inches below exposed subgrade.
 - 3. Use only hand methods or air spade for grubbing within protection zones.
 - 4. Chip removed tree branches and stockpile in areas approved by Architect.
- B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.
 - 1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches, and compact each layer to a density equal to adjacent original ground.

2.6 TOPSOIL STRIPPING

- A. Remove sod and grass before stripping topsoil.
- B. Stockpile topsoil away from edge of excavations without intermixing with subsoil or other materials. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.
 - 1. Limit height of topsoil stockpiles to 72 inches.
 - 2. Do not stockpile topsoil within protection zones.
 - 3. Stockpile surplus topsoil to allow for respreading deeper topsoil.

2.7 SITE IMPROVEMENTS

- A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.
- B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.
 - 1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut along line of existing pavement to remain before removing adjacent existing pavement. Saw-cut faces vertically.
 - 2. Paint cut ends of steel reinforcement in concrete to remain with two coats of antirust coating, following coating manufacturer's written instructions. Keep paint off surfaces that will remain exposed.

2.8 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.

END OF SECTION 31 10 00

SECTION 31 20 00 - EARTH MOVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Excavating and filling for rough grading the Site.
2. Preparing subgrades for slabs-on-grade, walks, pavements, turf and grasses, and plants.
3. Excavating and backfilling for buildings and structures.
4. Drainage course for concrete slabs-on-grade.
5. Subbase course for concrete walks and pads.
6. Excavating and backfilling trenches for utilities and pits for buried utility structures.

B. Related Requirements:

1. Section 311000 "Site Clearing" for site stripping, grubbing, stripping and stockpiling topsoil, and removal of above- and below-grade improvements and utilities.
2. Section 315000 "Excavation Support and Protection" for shoring, bracing, and sheet piling of excavations.
3. Section 329200 "Turf and Grasses" for finish grading in turf and grass areas, including preparing and placing planting soil for turf areas.

1.2 DEFINITIONS

A. Backfill: Soil material or controlled low-strength material used to fill an excavation.

1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
2. Final Backfill: Backfill placed over initial backfill to fill a trench.

B. Base Course: Aggregate layer placed between the subbase course and hot-mix asphalt paving.

C. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.

D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.

E. Drainage Course: Aggregate layer supporting the slab-on-grade that also minimizes upward capillary flow of pore water.

F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.

1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Architect. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
 2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Architect. Unauthorized excavation, as well as remedial work directed by Architect, will be without additional compensation.
- G. Fill: Soil materials used to raise existing grades.
- H. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other fabricated stationary features constructed above or below the ground surface.
- I. Subbase Course: Aggregate layer placed between the subgrade and base course for hot-mix asphalt pavement, or aggregate layer placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.
- J. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.
- K. Utilities: On-site underground pipes, conduits, ducts, and cables as well as underground services within buildings.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of the following manufactured products required:
1. Geotextiles.
 2. Controlled low-strength material, including design mixture.
 3. Warning tapes.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified testing agency.
- B. Material Test Reports: For each on-site and borrow soil material proposed for fill and backfill as follows:
1. Classification according to ASTM D2487.
 2. Laboratory compaction curve according to ASTM D1557.
- C. Pre-excavation Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by earth-moving operations. Submit before earth moving begins.

1.5 QUALITY ASSURANCE

- A. Geotechnical Testing Agency Qualifications: Qualified according to ASTM E329 and ASTM D3740 for testing indicated.

1.6 FIELD CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth-moving operations.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 - 2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.
- B. Utility Locator Service: Notify utility locator service for area where Project is located before beginning earth-moving operations.
- C. Do not commence earth-moving operations until temporary site fencing and erosion- and sedimentation-control measures specified in are in place.
- D. Do not commence earth-moving operations until plant-protection measures specified in Section 015639 "Temporary Tree and Plant Protection" are in place.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: Soil Classification Groups GW, GP, GM, SW, SP, and SM according to ASTM D2487, or a combination of these groups; free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
- C. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D2487, or a combination of these groups.
 - 1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
- D. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940/D2940M; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.

- E. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940/D2940M; with at least 95 percent passing a 1-1/2-inch sieve and not more than 8 percent passing a No. 200 sieve.
- F. Engineered Fill: Offsite material that is naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand (crushed concrete is not allowed) meeting the gradation requirements of MDOT Class II material.
- G. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940/D2940M; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.
- H. Drainage Course: 6 inches under building slab. MDOT Class II material.
- I. Filter Material: Narrowly graded mixture of natural or crushed stone; MDOT 34R (Pea gravel) with 100 percent passing a 1/2-inch sieve and zero to 5 percent passing a No. 8 sieve.
- J. Sand: ASTM C33/C33M; fine aggregate.
- K. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.

2.2 GEOTEXTILES

- A. Subsurface Drainage Geotextile: Nonwoven needle-punched geotextile, manufactured for subsurface drainage applications, made from polyolefins or polyesters; with elongation greater than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:
 - 1. Survivability:
 - a. Class 2; AASHTO M 288.
 - b. As follows:
 - 1) Grab Tensile Strength: 157 lbf; ASTM D4632.
 - 2) Sewn Seam Strength: 142 lbf; ASTM D4632.
 - 3) Tear Strength: 56 lbf; ASTM D4533.
 - 4) Puncture Strength: 56 lbf; ASTM D4833.
 - c. Apparent Opening Size: No. 40 sieve, maximum; ASTM D4751.
 - d. Permittivity: 0.5 per second, minimum; ASTM D4491.
 - e. UV Stability: 50 percent after 500 hours' exposure; ASTM D4355.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth-moving operations.
- B. Protect and maintain erosion and sedimentation controls during earth-moving operations.
- C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

3.2 DEWATERING

- A. Provide dewatering system of sufficient scope, size, and capacity to control hydrostatic pressures and to lower, control, remove, and dispose of ground water and permit excavation and construction to proceed on dry, stable subgrades.
- B. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- C. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
 - 1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
- D. Dispose of water removed by dewatering in a manner that avoids endangering public health, property, and portions of work under construction or completed. Dispose of water and sediment in a manner that avoids inconvenience to others.

3.3 EXPLOSIVES

- A. Explosives:
 - 1. Do not use explosives.

3.4 EXCAVATION, GENERAL

- A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock,

soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.

1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.

3.5 EXCAVATION FOR STRUCTURES

- A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.
 1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.
- B. Excavations at Edges of Tree- and Plant-Protection Zones:
 1. Excavate by hand or with an air spade to indicated lines, cross sections, elevations, and subgrades. If excavating by hand, use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.
 2. Cut and protect roots according to requirements in Section 015639 "Temporary Tree and Plant Protection."

3.6 EXCAVATION FOR WALKS AND PAVEMENTS

- A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.7 EXCAVATION FOR UTILITY TRENCHES

- A. Excavate trenches to indicated gradients, lines, depths, and elevations.
 1. Beyond building perimeter, excavate trenches to allow installation of top of pipe below frost line.
- B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit unless otherwise indicated.
 1. Clearance: 12 inches each side of pipe or conduit.
- C. Trench Bottoms:

1. Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.
 - a. For pipes and conduit less than 6 inches in nominal diameter, hand-excavate trench bottoms and support pipe and conduit on an undisturbed subgrade.
 - b. For pipes and conduit 6 inches or larger in nominal diameter, shape bottom of trench to support bottom 90 degrees of pipe or conduit circumference. Fill depressions with tamped sand backfill.
 - c. For flat-bottomed, multiple-duct conduit units, hand-excavate trench bottoms and support conduit on an undisturbed subgrade.
 - d. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

D. Trenches in Tree- and Plant-Protection Zones:

1. Hand-excavate to indicated lines, cross sections, elevations, and subgrades. Use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.
2. Do not cut main lateral roots or taproots; cut only smaller roots that interfere with installation of utilities.
3. Cut and protect roots according to requirements in Section 015639 "Temporary Tree and Plant Protection."

3.8 SUBGRADE INSPECTION

- A. Notify Architect when excavations have reached required subgrade.
- B. If Architect determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.
- C. Proof-roll subgrade below the building slabs and pavements with a pneumatic-tired and loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
 1. Completely proof-roll subgrade in one direction, repeating proof-rolling in direction perpendicular to first direction. Limit vehicle speed to 3 mph.
 2. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Architect, and replace with compacted backfill or fill as directed.
- D. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
- E. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Architect, without additional compensation.

3.9 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Architect.
 - 1. Fill unauthorized excavations under other construction, pipe, or conduit as directed by Architect.

3.10 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.11 BACKFILL

- A. Place and compact backfill in excavations promptly, but not before completing the following:
 - 1. Construction below finish grade including, where applicable, subdrainage, dampproofing, waterproofing, and perimeter insulation.
 - 2. Surveying locations of underground utilities for Record Documents.
 - 3. Testing and inspecting underground utilities.
 - 4. Removing concrete formwork.
 - 5. Removing trash and debris.
 - 6. Removing temporary shoring, bracing, and sheeting.
 - 7. Installing permanent or temporary horizontal bracing on horizontally supported walls.
- B. Place backfill on subgrades free of mud, frost, snow, or ice.

3.12 UTILITY TRENCH BACKFILL

- A. Place backfill on subgrades free of mud, frost, snow, or ice.
- B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- C. Trenches under Footings: Backfill trenches excavated under footings and within 18 inches of bottom of footings with satisfactory soil; fill with concrete to elevation of bottom of footings. Concrete is specified in Section 033000 "Cast-in-Place Concrete."

- D. Backfill voids with satisfactory soil while removing shoring and bracing.
- E. Initial Backfill:
 - 1. Soil Backfill: Place and compact initial backfill of subbase material, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the pipe or conduit.
 - a. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.
 - 2. Controlled Low-Strength Material: Place initial backfill of controlled low-strength material to a height of 12 inches over the pipe or conduit. Coordinate backfilling with utilities testing.
- F. Final Backfill:
 - 1. Soil Backfill: Place and compact final backfill of satisfactory soil to final subgrade elevation.

3.13 SOIL FILL

- A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- B. Place and compact fill material in layers to required elevations as follows:
 - 1. Under grass and planted areas, use satisfactory soil material.
 - 2. Under walks and pavements, use satisfactory soil material.
 - 3. Under steps and ramps, use engineered fill.
 - 4. Under building slabs, provide 6" drainage course immediately under slab. Use engineered fill thereafter.
 - 5. Under footings and foundations, use engineered fill.
 - 6. Behind foundation walls, use engineered fill.
- C. Place soil fill on subgrades free of mud, frost, snow, or ice.

3.14 SOIL MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
 - 1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.

2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.15 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill soil materials evenly on all sides of structures to required elevations and uniformly along the full length of each structure.
- C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D1557:
 1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 95 percent.
 2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 95 percent.
 3. Under turf or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 85 percent.
 4. For utility trenches, compact each layer of initial and final backfill soil material at 95 percent.

3.16 GRADING

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
 1. Provide a smooth transition between adjacent existing grades and new grades.
 2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
- B. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to elevations required to achieve indicated finish elevations, within the following subgrade tolerances:
 1. Turf or Unpaved Areas: Plus or minus 1 inch.
 2. Walks: Plus or minus 1 inch.
 3. Pavements: Plus or minus 1/2 inch.
- C. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch when tested with a 10-foot straightedge.

3.17 SUBSURFACE DRAINAGE

- A. Subsurface Drain: Place subsurface drainage geotextile around perimeter of subdrainage trench. Place a 6-inch course of filter material on subsurface drainage geotextile to support subdrainage pipe. Encase subdrainage pipe in a minimum of 12 inches of filter material, placed in compacted layers 6 inches thick, and wrap in subsurface drainage geotextile, overlapping sides and ends at least 6 inches.
 - 1. Compact each filter material layer to 95 percent of maximum dry unit weight according to ASTM D698 with a minimum of two passes of a plate-type vibratory compactor.
- B. Drainage Backfill: Place and compact filter material over subsurface drain, in width indicated, to within 12 inches of final subgrade, in compacted layers 6 inches thick. Overlay drainage backfill with one layer of subsurface drainage geotextile, overlapping sides and ends at least 6 inches.
 - 1. Compact each filter material layer to 95 percent of maximum dry unit weight according to ASTM D698 with a minimum of two passes of a plate-type vibratory compactor.
 - 2. Place and compact impervious fill over drainage backfill in 6-inch-thick compacted layers to final subgrade.

3.18 DRAINAGE COURSE UNDER CONCRETE SLABS-ON-GRADE

- A. Place drainage course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place and compact drainage course under cast-in-place concrete slabs-on-grade as follows:
 - 1. Install subdrainage geotextile on prepared subgrade according to manufacturer's written instructions, overlapping sides and ends.
 - 2. Place drainage course 6 inches or less in compacted thickness in a single layer.
 - 3. Place drainage course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.
 - 4. Compact each layer of drainage course to required cross sections and thicknesses to not less than 95 percent of maximum dry unit weight according to ASTM D1557.

3.19 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a qualified special inspector to perform the following special inspections:
 - 1. Determine prior to placement of fill that site has been prepared in compliance with requirements.
 - 2. Determine that fill material classification and maximum lift thickness comply with requirements.

3. Determine, during placement and compaction, that in-place density of compacted fill complies with requirements.
- B. Testing Agency: Owner will engage a qualified geotechnical engineering testing agency to perform tests and inspections.
- C. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.
- D. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by Architect.
- E. Testing agency will test compaction of soils in place according to ASTM D1556, ASTM D2167, ASTM D2937, and ASTM D6938, as applicable. Tests will be performed at the following locations and frequencies:
 1. Paved and Building Slab Areas: At subgrade and at each compacted fill and backfill layer, at least one test for every 2000 sq. ft. or less of paved area or building slab but in no case fewer than three tests.
 2. Foundation Wall Backfill: At each compacted backfill layer, at least one test for every 100 feet or less of wall length but no fewer than two tests.
 3. Trench Backfill: At each compacted initial and final backfill layer, at least one test for every 150 feet or less of trench length but no fewer than two tests.
- F. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.

3.20 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
 1. Scarify or remove and replace soil material to depth as directed by Architect; reshape and recompact.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.

1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.21 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Transport surplus satisfactory soil to designated storage areas on Owner's property. Stockpile or spread soil as directed by Architect.

1. Remove waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 31 20 00

SECTION 32 92 00 - TURF AND GRASSES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Provide all labor, materials, and equipment as necessary to complete all work as indicated on the Drawings and specified herein.
- B. Section Includes:
 - 1. Seeding.
 - 2. Turf renovation
 - 3. Erosion-control material(s)
- C. Related Sections:
 - 1. Section 311000 "Site Clearing" for topsoil stripping and stockpiling.
 - 2. Section 312000 "Earth Moving" for excavation, filling and backfilling, and rough grading.

1.3 DEFINITIONS

- A. Duff Layer: The surface layer of native topsoil that is composed of mostly decayed leaves, twigs, and detritus.
- B. Finish Grade: Elevation of finished surface of planting soil.
- C. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.
- D. MDOT: Michigan Department of Transportation 2012 Standard Specifications for Construction
- E. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. This includes insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. It also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.

- F. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. These include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- G. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or top surface of a fill or backfill before planting soil is placed.
- H. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.
- I. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil, but in disturbed areas such as urban environments, the surface soil can be subsoil.

1.4 ACTION SUBMITTALS

- A. Product Data: For each product indicated
 - 1. Seed Labels: Submit seed labels from bags showing mix composition
 - 2. Fertilizer
- B. Buy America Statement of Compliance: For all iron, steel, and manufactured products used, Contractor shall submit a statement of compliance with 49 C.F.R. Part 661—Buy America Requirements—Surface Transportation Assistance Act Of 1982, As Amended.
 - 1. All iron, steel, and manufactured products shall be produced in the United States; no exceptions permitted.
 - 2. The Contractor is solely responsible for certification of compliance with this requirement for all products used.
 - 3. Products are listed in the Contract Documents to convey the design intent, however some products listed may not be compliant with Buy America; inclusion of products in the specifications does not imply that the specified products are necessarily compliant with Buy America. Contractor remains responsible to verify and document compliance of all products used.
 - 4. If Contractor determines that a specified product does not comply with Buy America, the Contractor remains responsible to provide a comparable product at no additional cost, as required to complete the Work. Such products remain subject to compliance with all other requirements and specified performance criteria and are subject to review and approval by the Architect and Owner through the proper product substitution procedures.

1.5 QUALITY ASSURANCE

- A. Qualifications.
 - 1. Installer Qualifications: The work of this section shall be performed by a contractor specializing in seeding lawn installations and turf maintenance.

2. Turf Maintenance: The maintenance activities for all turf areas shall be performed by skilled employees of the landscape installer.

B. Regulatory Requirements.

1. All seed shall comply with applicable sections of the following references:
 - a. Federal Seed Act
 - b. Michigan Seed Law
 - c. Association of Office Seed Analysts (AOSA): "Rules for Testing Seed".

C. Certifications:

1. Grass Seed: Submit certification from seed vendor for each grass seed mixture stating the botanical and common name, percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging. Include identification of source and name and telephone number of supplier.
2. Pesticide Applicator: Provide information on state commercial pesticide business license and commercial pesticide application certification.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver seed in vendor's original unopened packages bearing the manufacturer's labels. Store in a cool dry location. Replace any seed damaged during storage.
- B. Fertilizers and other chemicals delivered to the site must be in a clearly, labeled, unopened containers showing weight, analysis, and name of manufacturer.
- C. Straw mulch shall be stored off the ground under a cover that provides protection from moisture and humidity.

1.7 PROJECT CONDITIONS

- A. Planting Season:
 1. Seeding: Optimal and preferred seeding period is August 15 through September 15. Alternative seeding period is April 15 through May 30.
 2. Seeding outside the specified windows will only be permitted if approved in writing by the Architect prior to installation.

1.8 WARRANTY

- A. Substantial Completion Inspection: Notify the Architect in writing when work is complete. Within 10 days after notification, the Architect will inspect the work and prepare a Notice of Substantial Completion, along with a punchlist. The issue date of the notice will start the turf establishment period and the warranty period.

1. After receiving a Notice of Substantial Completion establish and maintain all turf (See Part 1.9) in a vigorous, well-kept condition until Final Acceptance of the entire landscape.
- B. Final Inspection: Final Inspection and Acceptance will be at the end of the turf establishment period. Acceptance will be based upon the required work having uniform finished grades conforming to the drawings and vigorous complete cover of the specified species, free of weeds, and/or conditions inconsistent with the installation specified. Areas which do not meet the contract requirements shall be regarded as needed and reseeded. The Contractor shall provide materials and labor necessary to correct any deficiencies as outlined during the warranty period. Repair rejected areas of turf within acceptable planting dates as directed by the Architect.

1.9 MAINTENANCE SERVICE

- A. Provide full maintenance by skilled employees of landscape installer.
- B. Begin maintenance immediately after each area is planted and continue until Final Acceptance of the entire landscape.
- C. Maintenance to include grade repair, irrigation, fertilization, reseeding, mowing, insect and weed control, trimming and edging. Roll, regrade, and replace bare or eroded areas and remulch to provide a uniformly smooth turf. Provide same materials and installation as those used in the original installation.
- D. For seeded lawns, first mowing shall occur when grass blades reach 3 inch height and mow to 2 inch height. Thereafter, each mowing shall occur when the grass has reached a height of 4 inches. Mow to a height of 3 inches. Never remove more than 1/3 of the total height of the grass blades at any single mowing.
- E. Fill any depressions or settlement that occurs within the maintenance period. Reseed bare spots which occur during the maintenance period.
- F. Irrigate seeded lawns as required to supplement natural rainfall so that all lawn areas receive sufficient water for normal plant growth, for a total minimum equivalent to 1 inch water per week. Infrequent but deep watering promotes deep root growth.
- G. If automatic irrigation is not available, Contractor shall provide all equipment needed for watering and be responsible for securing adequate supply of water. Water areas at a minimum rate equivalent to 1 inch rainfall/week. Infrequent but deep watering promotes deep root growth.
- H. Fertilization.
 1. Apply initial starter fertilization 4 weeks after installation of lawn. Use the same analysis commercial fertilizer recommended by soil test reports, or use 0.75 pounds of actual nitrogen and 1 pound P205 (phosphorous) per 1,000 square feet. The timing of this

application may coincide with fertilizer applications given below and should replace the required formulation.

2. During the turf establishment period fertilize lawns a minimum of three (3) times during the growing season, once during each of the following dates:
 - a. Late May, water-soluble slow-release fertilizer providing 1 pound actual nitrogen per 1,000 square feet.
 - b. Mid-September, complete quick-release fertilizer providing 1 pound actual nitrogen per 1,000 square feet.
 - c. Late October, complete quick-release fertilizer providing 1.5 pound actual nitrogen per 1,000 square feet.

PART 2 - PRODUCTS

2.1 SEED

A. Seed.

1. Seed shall be fresh, clean, dry, new-crop seed complying with the AOSA's "Rules for Testing Seed", tested for purity and germination tolerances.

B. Type

MDOT (Michigan Department of Transportation) TUF-Turf Urban Freeway seed mix to be applied at 6 pounds per 1000 sf.

Variety	Proportion By Weight	Purity	Germination
Kentucky Bluegrass	30%	98	85
Perennial Ryegrass	20%	96	85
Creeping Red Fescue	50%	97	85

Maximum weed content shall be 30%

1. Other cultivars may be substituted for approval by Architect, but they must be newer, more improved cultivars than what is listed.

2.2 FERTILIZERS

1. Fertilizer shall be a complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, not less than 30% of the nitrogen from a slow release source. Fifty

percent of the nitrogen shall be derived from natural organic sources. The percentages by weight shall be determined per recommendations of the soil testing reports for lawns.

2.3 STRAW MULCHES

- A. Provide air-dry, clean, mildew- and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.
- B. Straw shall be in an airy dry condition and suitable for placing with commercial mulch blowing equipment.

2.4 EROSION CONTROL BLANKET

- A. Provide temporary erosion control blanket:
 - 1. Erosion control blanket shall be constructed with 100% biodegradable jute fiber on top and bottom, contain 70% agricultural straw (0.35 lbs per square yard) and 30% coconut fiber (0.15 lbs per square yard), and have a typical functional longevity of 18 months, such as North American Green BioNet SC150BN, or approved equal. Plastic weaving will not be permitted.
 - 2. Fasteners for erosion control blanket shall be 11 gauge steel wire, formed into a U-shaped staple 6 inches long.

2.5 WATER

- A. Source: Water shall be provided by the Contractor.
- B. Quality: Water shall be free of substances harmful to plant growth.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Contractor must examine the areas and conditions under which all items are to be installed and notify the Architect in writing of conditions detrimental to the proper and timely completion of the work. Lawn installation will not proceed until unsatisfactory conditions have been corrected in a manner acceptable to the Architect.
- B. Do not mix or place soils and soil amendments in frozen, wet, or muddy conditions.
- C. Suspend spoil spreading, grading, and tilling operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.

- D. Uniformly moisten excessively dry soil that is not workable and which is too dusty.

3.2 TURF AREA PREPARATION

- A. Limit turf subgrade preparation to areas to be planted.

- 1. Areas identified for intermediate temporary soil stabilization shall not be prepared with topsoil. Contractor shall review temporary stabilization areas with Architect.

- B. Grade Preparation.

- 1. Maintain rough grades in the areas to be topsoiled in a uniform condition so as to prevent future depressions. Prior to placing topsoil, repair disturbances to previously graded areas and remove surplus subgrade material associated with any landscape construction. Scarify areas to a depth of 6 inches prior to topsoil placement. Scarifications shall have a maximum 2 foot separation and be cut in two directions, one perpendicular to the other.
 - 2. If the prepared grade is eroded or compacted by rainfall prior to fertilizing, rework the surface as specified. Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
 - 3. Soil Amendments.
 - a. Amend soil with lime or sulfur as recommended by soil tests, working it into the top 4 inches of soil at same time as fertilizer application.
 - 4. Fertilizer.
 - a. Uniformly distribute fertilizer by mechanical means at the rate recommended by soil tests.
 - b. Uniformly distribute fertilizer by mechanical means at the rate of 10 pounds of 10-10-10 per 1,000 square feet (to make 1 pound of actual nitrogen per 1,000 square feet).
 - c. Work fertilizer into the top 4 inches of soil. Cultivating equipment shall be set so that the fertilizer will not penetrate into the soil more than 4 inches. Do not apply fertilizer when there is a possibility of rain before lawn areas can be seeded.

- C. Placing Topsoil

- 1. Uniformly distribute topsoil on lawn areas so that after compaction and finish grading, topsoil depth is (4"). Placement shall include spreading, cultivating, lightly compacting, dragging and grading to the conditions specified below.
 - 2. Topsoil, when placed, shall be dry enough so as not to puddle or bond. Do not place topsoil when the subgrade is frozen, excessively wet, extremely dry or in a condition otherwise detrimental to proper grading or lawn operation.
 - 3. Immediately before seeding scarify, loosen, float, and drag topsoil as necessary to bring it to the proper condition. Remove all foreign matter larger than 1 inch indiameter.

- D. Finished Grades

1. Finished grades shall slope to drain, be free of depressions or other irregularities after thorough settlement and compaction of soil, and shall be uniform in slope between grading controls and the elevations indicated.
2. Finished grade for seeded lawn areas shall meet existing grades at contract limits and be ½ inch below top of curbs, walk paving, and metal edging if used.

3.3 SEEDING

- A. Do not sow seed when weather conditions are unfavorable, such as during drought or high winds.
- B. Perform seeding using an approved drop spreader/seeder with cultipacker.
- C. Sow the seed uniformly at a rate of 6 lbs/1000 square feet. All areas shall be seeded in at least two directions, one perpendicular to the other. Turfgrass seeds shall not be covered by more than ¼ inch of soil. The seeding device shall lightly roll the seed bed to provide good moisture contact between the seed and soil.
- D. Water thoroughly and immediately with a fine mist until soil is soaked to a depth of 2 inches. Puddling of water or allowing the seedbed to dry is unacceptable.
- E. Spread straw mulch evenly at the rate of 2 tons per acre. Place all mulch on given areas within 24 hours after seeding. A mechanical blower may be used to apply mulch material, provided the machine has been specifically designed and approved for this purpose. Anchor the mulch by either using a crimping device or applying tackifier on the mulched surface. When tackifier is used, it may be applied either simultaneously or in a separate application. Take precautionary measures to prevent tackifier materials from marking or defacing structures, pavements, utilities, or plantings.
- F. Maintain soil in a moist condition (in hot dry weather irrigation may be required 2-4 times per day) until seeds have sprouted and reached a height of 1 inch. Water thereafter a minimum of once every 2-3 days unless natural rainfall has provided equivalent watering. Provide irrigation to moisten soil to a depth of 4 inches to encourage deeper rooting.

3.4 TEMPORARY SOIL STABILIZATION

- A. On disturbed areas that will not receive final landscape/plant material installation or final seeding within two weeks of being disturbed, the Contractor shall provide temporary soil stabilization. Contractor shall apply straw mulch to all exposed areas after scarifying and fine grading takes place.
- B. Spread a loosely applied layer of clean, chopped straw at the rate of 2 tons/acre (90 lbs/1000 square feet) to form a continuous blanket 1-1/2" in loose thickness.

3.5 EROSION CONTROL BLANKET

- A. Install erosion control blankets on slopes 1:3 or steeper or in corrective situations where water flow has eroded and disrupted lawn establishment.
- B. Immediately following seeding, erosion control blanket shall be rolled out in place in the direction of the slope fall line. The material shall be applied without stretching and shall lie smoothly but loosely on the soil surface. Installer shall minimize walking directly on the seed or topsoil bed either before or after the blanket is applied.
- C. All ends shall be buried a minimum of 4 inches deep and the trench shall be firmly tamped after closing.
- D. In cases where roll ends join, the up-slope piece shall overlap the down-slope piece by at least 18 inches.
- E. Staple edges prior to backfilling trench, all overlaps at 12 inch intervals, and the center of each panel on 3 foot intervals.
- F. The upslope ends of the blanket shall be buried a minimum of 6 inches deep and stapled at 12 inch intervals prior to backfilling trench.
- G. Reseed all disturbed edges immediately following straw blanket installation and work seed into blanket.

3.6 TURF RESTORATION

- A. Paved areas over which hauling operations have been conducted shall be kept clean. Promptly remove materials spilled on pavement.
- B. Repair existing lawns damaged by operations under contract. Repair shall include finish grading, seeding, as required to match existing grade and lawn, and maintenance of repair areas.
 - 1. Reestablish turf where settlement or washouts occur or where minor regrading is required.
 - 2. Install new planting soil as required.
- C. Remove sod and vegetation from diseased or unsatisfactory turf areas; do not bury in soil.
- D. Remove topsoil containing foreign materials such as oil drippings, fuel spills, stones, gravel, and other construction materials resulting from Contractor's operations, and replace with new planting soil. Upon completion of lawn installation, remove from the site and legally dispose of the following:
 - 1. Surplus subgrade material
 - 2. Stone and foreign matter.

- E. Mow, dethatch, core aerate, and rake existing turf.
- F. Remove weeds before seeding. Where weeds are extensive, apply selective herbicides as required. Do not use pre-emergence herbicides.
- G. Remove waste and foreign materials, including weeds, soil cores, grass, vegetation, and turf, and legally dispose of them off Owner's property.
- H. Till stripped bare, and compacted areas thoroughly to a soil depth of 6 inches.
- I. Apply soil amendments and initial fertilizers required for establishing new turf and mix thoroughly into top 4 inches of existing soil. Install new planting soil to fill low spots and meet finish grades.
- J. Apply seed and hydroseed as required for new turf.
- K. Water newly planted areas and keep adequately watered through establishment period.

3.7 CLEANUP AND PROTECTION

- A. Perimeter silt fence and inlet protection shall remain in place adjacent to all temporary soil stabilization areas.
- B. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after plantings are established.
- C. Remove nondegradable erosion-control measures after grass establishment period.

END OF SECTION 32 92 00

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SECTION 323113.53 - HIGH-SECURITY CHAIN LINK FENCES AND GATES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. High-security chain-link fences.
2. Swing gates.
3. Horizontal-slide gates.
4. Soil sterilization.

B. Related Requirements:

1. **Section 033000 "Cast-in-Place Concrete"** for cast-in-place concrete, **equipment bases/pads for gate operators and controls, and post footings.**
2. Section 281500 "Access Control Hardware Devices" for gate controls.

1.2 PREINSTALLATION MEETINGS

1. Inspect and discuss electrical roughing-in, equipment bases, and other preparatory work specified elsewhere.
2. Review coordination of soil sterilization with work specified elsewhere.
3. Review sequence of operation for each type of gate operator.
4. Review coordination of interlocked equipment specified in this Section and elsewhere.
5. Review required testing, inspecting, and certifying procedures.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for the following:
 - a. Fence and gate posts, rails, and fittings.
 - b. Chain-link fabric, reinforcements, and attachments.
 - c. Accessories: mesh ribbons.
 - d. Gates and hardware.

B. Shop Drawings: For each type of fence and gate assembly.

1. Include plans, elevations, sections, details, and attachments to other work.
2. Include accessories, hardware, gate operation, and operational clearances.

3. Gate Access Control: Show locations and details for installing components, switches, and controls. Indicate size, electrical characteristics, arrangement, mounting, and grounding provisions.
 4. Wiring Diagrams: For power, signal, and control wiring.
- C. Samples for Initial Selection: For each type of factory-applied finish.
- D. Samples for Verification: For each type of component with factory-applied finish, prepared on Samples of size indicated below:
1. Polymer-Coated Components: In 6-inch (150-mm) lengths for components and on full-sized units for accessories.
- E. Delegated Design Submittal: For structural performance of chain-link fence and gate frameworks, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For **professional and factory-authorized service representative**.
- B. Product Certificates: For each type of chain-link fence and gate.
- C. Product Test Reports: For framework strength in accordance with ASTM F1043, for tests performed by **manufacturer and witnessed by a qualified testing agency**.
- D. Field quality-control reports.
- E. Sample Warranty: For special warranty.

1.5 CLOSEOUT SUBMITTALS

1.6 QUALITY ASSURANCE

- A. Testing Agency Qualifications: For testing fence grounding; member company of NETA or an NRTL.
 1. Testing Agency's Field Supervisor: Certified by NETA to supervise on-site testing.
- B. Emergency Access Requirements: According to requirements of authorities having jurisdiction for gates with automatic gate operators serving as a required means of access.

1.7 FIELD CONDITIONS

- A. Field Measurements: Verify layout information for chain-link fences and gates shown on Drawings in relation to property survey and existing structures. Verify dimensions by field measurements.

1.8 WARRANTY

- A. Special Warranty: **[Installer agrees]** to repair or replace components of high-security chain-link fences and gates that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Failure to comply with performance requirements.
 - b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - c. Faulty operation of gate and controls.
 - 2. Warranty Period: **Five [5]** years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design chain-link fence and gate frameworks.
- B. Structural Performance: Chain-link fence and gate frameworks shall withstand the design wind loads and stresses for fence height(s) and under exposure conditions indicated in accordance with **ASCE/SEI 7**:
 - a. Minimum Post Size and Maximum Spacing: Provide line posts of size and in spacing indicated, but not less than sizes and spacings determined in accordance with CLFMI WLG 2445, based on mesh size and pattern specified.
 - 2. Fabric Tension: Maximum **[2.5 inches (64 mm)]** <Insert dimension> when tested by applying a **30-lbf (133-N)** force at midpoint between rails and horizontally between posts for every eighth lower panel along the fence line. Measure fabric movement from the relaxed position at the point where the force is applied.
 - 3. Fence Post Rigidity: Maximum **[3/4 inch (19 mm)]** <Insert dimension> when a **50-lbf (222-N)** force is applied at midheight of every eighth post along the fence line. Measure post movement from the relaxed position at the point where the force is applied.
- C. Lightning Protection System: Maximum resistance-to-ground value of 25 ohms at each grounding location along fence under normal dry conditions.

2.2 CHAIN-LINK FENCE WOVEN PRIVACY SLATS

- A. General: Provide fabric in height measured between top and bottom of outer edge of selvage in accordance with "CLFMI Product Manual" and requirements indicated below:
 - 1. Slat Strip Height: One piece **as indicated on Drawings (Full height of gate)**.
 - 2. Polymer-Coated Fabric: ASTM F668, Class 2b over **aluminum**-coated steel wire.
 - a. Color: **[As selected by Architect from manufacturer's full range]**

2.3 TENSION WIRE

- A. Metallic-Coated Steel Wire: **0.177-inch- (4.5-mm-)** diameter, marcelled tension wire in accordance with ASTM A817 or ASTM A824, with the following metallic coating:
 - 1. Type II: Zinc coated (galvanized) by **hot-dip** process, with Class 5 minimum coating weight of not less than **2.0 oz./sq. ft. (610 g/sq. m)** of uncoated wire surface.

2.4 SWING GATES

- A. General: ASTM F900 for gate posts and **[double]** swing gate types.
 - 1. Gate Leaf Width: **As indicated** on drawings.
 - 2. Framework Member Sizes and Strength: Based on gate fabric height **of 108 inches (1830 mm) or less**.
- B. Pipe and Tubing:
 - 1. Zinc-Coated Steel: ASTM F1043 and ASTM F1083; **protective coating and finish to match fence framework**.
 - 2. Gate Posts: **[Rectangular tubular steel]**
 - 3. Gate Frames and Bracing: **[Rectangular tubular steel]**
- C. Frame Corner Construction: **Welded** and **3/8-inch- (9.5-mm-)** diameter, adjustable truss rods for panels **60 inches (1520 mm)** or wider.
- D. Hardware:
 - 1. Hinges: **180-degree outward** swing.
 - 2. Latch: Permitting operation from **[one side]** of gate **with provision for padlocking accessible from interior side of gates**.
 - 3. Lock: **[Manufacturer's standard]** internal device & cane bolt.
 - 4. Padlock and Chain: stainless steel.
 - 5. Closer: **[Manufacturer's standard]**.

2.5 FITTINGS

- A. Provide fittings in accordance with ASTM F626.
- B. Post Caps: Provide for each post.
 - 1. Provide line post caps with loop to receive tension wire or top rail.
- C. Rail and Brace Ends: For each gate, corner, pull, and end post.
- D. Rail Fittings: Provide the following:
 - 1. Top-Rail Sleeves: Pressed-steel or round-steel tubing not less than **6 inches (152 mm)** long.
 - 2. Rail Clamps: Line and corner boulevard clamps for connecting **[intermediate]** **[and]** **[bottom]** rails to posts.
- E. Tension and Brace Bands, Tension Bars, and Truss Rod Assemblies: In accordance with ASTM F2611.
- F. Tie Wires, Clips, and Fasteners: In accordance with ASTM F626.
 - 1. High-Security Round Wire Ties: For attaching chain-link fabric to posts, rails, and frames, according to the following:
 - a. Metallic-Coated Steel: **[0.148-inch- (3.76-mm-)]** **[0.192-inch- (4.88-mm-)]** diameter wire; **[zinc]** **[aluminum]** coating.
 - b. Stainless steel.
- G. Power-Driven Fabric Fasteners: As recommended in writing by manufacturer.
- H. Finish:
 - 1. Metallic Coating for Pressed Steel or Cast Iron: Not less than **1.2 oz. /sq. ft. (366 g/sq. m)** of zinc.

2.6 GROUT AND ANCHORING CEMENT

- A. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C1107/C1107M. Provide grout, recommended in writing by manufacturer, for exterior applications.
- B. Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound. Provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating, and that is recommended in writing by manufacturer for exterior applications.

2.7 GROUNDING MATERIALS

- A. Comply with requirements in Section 260526 "Grounding and Bonding."
- B. Connectors and Grounding Rods: Listed and labeled for complying with UL 467.
 - 1. Connectors for Below-Grade Use: Exothermic welded type.
 - 2. Grounding Rods: Copper-clad steel, 5/8 by 96 inches (16 by 2440 mm).

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for[**a certified survey of property lines and legal boundaries,**] site clearing, earthwork, pavement work, and other conditions affecting performance of the Work.
 - 1. Do not begin installation before final grading is completed unless otherwise permitted by Architect.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Stake locations of fence lines, gates, and terminal posts. Do not exceed intervals of 500 feet (152 m) or line of sight between stakes. Indicate locations of utilities, lawn sprinkler system, underground structures, benchmarks, and property monuments.

3.3 INSTALLATION OF CHAIN-LINK FENCING

- A. Install chain-link fencing in accordance with ASTM F567 and more stringent requirements specified.
- B. Post Excavation: Drill or hand-excavate holes for posts to diameters and spacings indicated, in firm, undisturbed soil.
- C. Post Setting: Set posts [in concrete] at indicated spacing into firm, undisturbed soil.
 - 1. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during setting with concrete or mechanical devices.
 - 2. Concrete Fill: Place concrete around posts to dimensions indicated and vibrate or tamp for consolidation. Protect aboveground portion of posts from concrete splatter.
 - a. Concealed Concrete: Place top of concrete below grade **as indicated on Drawings** to allow covering with surface material.

- b. Posts Set into Sleeves in Concrete: Use steel pipe sleeves preset and anchored into concrete for installing posts. After posts are inserted into sleeves, fill annular space between post and sleeve with **anchoring cement**, mixed and placed according to anchoring material manufacturer's written instructions. Finish anchorage joint to slope away from post to drain water.
 - c. Posts Set into Holes in Concrete: Form or core drill holes not less than **5 inches (127 mm)** deep and **3/4 inch (19 mm)** larger than OD of post. Clean holes of loose material, insert posts, and fill annular space between post and concrete with **anchoring cement**, mixed and placed according to anchoring material manufacturer's written instructions. Finish anchorage joint to slope away from post to drain water.
- D. Tension Wire: Install in accordance with ASTM F567, maintaining plumb position and alignment of fence posts. Pull wire taut, without sags. Fasten fabric to tension wire with **0.120-inch- (3.05-mm-)** diameter hog rings of same material and finish as fabric wire, spaced a maximum of **24 inches (610 mm)** o.c. Install tension wire in locations indicated before stretching fabric. Provide horizontal tension wire at the following locations:
- E. Top Rail: Install in accordance with ASTM F567, maintaining plumb position and alignment of fence posts. Run rail continuously through line post caps, bending to radius for curved runs and terminating into rail end attached to posts or post caps fabricated to receive rail at terminal posts. Provide expansion couplings as recommended in writing by fencing manufacturer.
- F. Bottom Rails: Secure to posts with fittings; anchor rail at midspan to concrete **footing**.
 - 1. Bottom Clearance: Leave **[1-1/2 inches (38 mm)]** between finish grade or surface and bottom selva unless otherwise indicated.
- G. Tension or Stretcher Bars: Thread through fabric and secure to end, corner, pull, and gate posts with tension bands spaced not more than **15 inches (380 mm)** o.c.
- H. Tie Wires: Power-fastened or manually fastened ties configured to wrap a full 360 degrees around rail or post and a minimum of one complete diamond of fabric. Twist ends one and one-half machine twists or three full manual twists, and cut off protruding ends to preclude untwisting by hand.
 - 1. Maximum Spacing: Tie fabric to line posts at **12 inches (305 mm)** o.c. and to braces at **24 inches (610 mm)** o.c.
- I. Power-Fastening of Fabric: Fasten **0.192- or 0.148-inch (4.87- or 3.76-mm)** wire fabric with **2- or 1-inch (50- or 25-mm)** mesh size. Fasten fabric to line posts **12 inches (300 mm)** o.c. and to braces **24 inches (610 mm)** o.c.
- J. Fasteners: Install nuts for tension bands and carriage bolts on the side of fence opposite the fabric side. **Peen ends of bolts or score threads to prevent removal of nuts.**
- K. Install gates according to manufacturer's written instructions, level, plumb, and secure for full opening without interference. Attach fabric as for fencing. Attach hardware using tamper-

resistant or concealed means. Install ground-set items in concrete for anchorage. Adjust hardware for smooth operation.

3.4 GROUNDING AND BONDING

- A. Comply with requirements in Section 260526 "Grounding and Bonding."
- B. Fence and Gate Grounding:
 - 1. Ground for fence and fence posts shall be a separate system from ground for gate and gate posts.
 - 2. Install ground rods and connections at maximum intervals of [100 feet (30 m)]
 - 3. Ground fence on each side of gates and other fence openings.
 - a. Bond metal gates to gate posts.
 - b. Bond across openings, with and without gates, except openings indicated as intentional fence discontinuities. Use No. 2 AWG wire and bury it at least 18 inches (457 mm) below finished grade.
- C. Protection at Crossings of Overhead Electrical Power Lines: Ground fence at location of crossing and at a ground rod located a maximum distance of 150 feet (45 m) on each side of crossing.
- D. Fences Enclosing Electrical Power Distribution Equipment: Ground in accordance with IEEE C2 unless otherwise indicated.
- E. Grounding Method: At each grounding location, drive a grounding rod vertically until the top is 6 inches (152 mm) below finished grade. Connect rod to fence with No. 6 AWG conductor. Connect conductor to each fence component at grounding location.
 - 1. Make connections with clean, bare metal at points of contact.
 - 2. Make aluminum-to-steel connections with stainless steel separators and mechanical clamps.
 - 3. Make aluminum-to-galvanized-steel connections with tin-plated copper jumpers and mechanical clamps.
 - 4. Make above-grade ground connections with mechanical fasteners.
 - 5. Make below-grade ground connections with exothermic welds.
 - 6. Coat and seal connections having dissimilar metals with inert material to prevent future penetration of moisture to contact surfaces.

3.5 ADJUSTING

- A. Gates: Adjust gates to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.

- B. Lubricate hardware and other moving parts.

3.6 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain high-security chain-link fences and gates.

END OF SECTION 323113.53

SECTION 32 91 13 - SOIL PREPARATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes planting soils specified by composition of the mixes.
- B. Related Requirements:
 - 1. Section 32 92 00 "Turf and Grasses" for placing planting soil for turf and grasses.

1.3 DEFINITIONS

- A. AAPFCO: Association of American Plant Food Control Officials.
- B. Backfill: The earth used to replace or the act of replacing earth in an excavation. This can be amended or unamended soil as indicated.
- C. CEC: Cation exchange capacity.
- D. Compost: The product resulting from the controlled biological decomposition of organic material that has been sanitized through the generation of heat and stabilized to the point that it is beneficial to plant growth.
- E. Duff Layer: A surface layer of soil, typical of forested areas, that is composed of mostly decayed leaves, twigs, and detritus.
- F. Imported Soil: Soil that is transported to Project site for use.
- G. Manufactured Soil: Soil produced by blending soils, sand, stabilized organic soil amendments, and other materials to produce planting soil.
- H. NAPT: North American Proficiency Testing Program. An SSSA program to assist soil-, plant-, and water-testing laboratories through interlaboratory sample exchanges and statistical evaluation of analytical data.
- I. Organic Matter: The total of organic materials in soil exclusive of undecayed plant and animal tissues, their partial decomposition products, and the soil biomass; also called "humus" or "soil organic matter."

- J. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified as specified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- K. RCRA Metals: Hazardous metals identified by the EPA under the Resource Conservation and Recovery Act.
- L. SSSA: Soil Science Society of America.
- M. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.
- N. Subsoil: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally occurring soil profile, typified by less than 1 percent organic matter and few soil organisms.
- O. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, surface soil is typically called "topsoil"; but in disturbed areas such as urban environments, the surface soil can be subsoil.

1.4 INFORMATIONAL SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Material Certificates: For each type of imported soil and soil amendment and fertilizer before delivery to the site.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and compliance with state and Federal laws if applicable.
- B. Bulk Materials:
 - 1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
 - 2. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
 - 3. Do not move or handle materials when they are wet or frozen.
 - 4. Accompany each delivery of bulk fertilizers and soil amendments with appropriate certificates.

PART 2 - PRODUCTS

2.1 PLANTING SOILS

- A. General: Soil amendments, fertilizers, and rates of application specified in this article are guidelines that may need revision based on testing laboratory's recommendations after preconstruction soil analyses are performed.
- B. Existing, on-site surface soil, with the duff layer, if any, retained; and stockpiled on-site; modified to produce viable planting soil. Blend existing, on-site surface soil with the following soil amendments and fertilizers as recommended by the testing laboratory to support plant growth.
- C. Planting-Soil : ASTM D 5268 topsoil, with pH range of 5.5 to 7, a minimum of 4 percent organic matter content; free of stones 1 inch or larger in dimension and other extraneous materials harmful to plant growth.

2.2 INORGANIC SOIL AMENDMENTS

- A. Lime: ASTM C602, agricultural liming material containing a minimum of 80 percent calcium carbonate equivalent and as follows:
 - 1. Class: T, with a minimum of 99 percent passing through a No. 8 sieve and a minimum of 75 percent passing through a No. 60 sieve.
 - 2. Form: Provide lime in form of ground dolomitic limestone.
- B. Sulfur: Granular, biodegradable, and containing a minimum of 90 percent elemental sulfur, with a minimum of 99 percent passing through a No. 6 sieve and a maximum of 10 percent passing through a No. 40 sieve.
- C. Iron Sulfate: Granulated ferrous sulfate containing a minimum of 20 percent iron and 10 percent sulfur.
- D. Perlite: Horticultural perlite, soil amendment grade.
- E. Sand: Clean, washed, natural or manufactured, free of toxic materials, and according to ASTM C33.

2.3 ORGANIC SOIL AMENDMENTS

- A. Compost: Well-composted, stable, and weed-free organic matter produced by composting feedstock, and bearing USCC's "Seal of Testing Assurance," and as follows:
 - 1. Feedstock: Limited to leaves.
 - 2. Reaction: pH of 5.5 to 8.
 - 3. Soluble-Salt Concentration: Less than 10 dS/m.

4. Moisture Content: 35 to 55
 5. Organic-Matter Content: 30 to 60 percent of dry weight.
 6. Particle Size: Minimum of 98 percent passing through a 3/4 inch sieve.
- B. Sphagnum Peat: Partially decomposed sphagnum peat moss, finely divided or of granular texture with 100 percent passing through a 1/2-inch sieve, a pH of 3.4 to 4.8, and a soluble-salt content measured by electrical conductivity of maximum 5 dS/m.
- C. Muck Peat: Partially decomposed moss peat, native peat, or reed-sedge peat, finely divided or of granular texture with 100 percent passing through a 1/2-inch sieve, a pH of 6 to 7.5, a soluble-salt content measured by electrical conductivity of maximum 5 dS/m, having a water-absorbing capacity of 1100 to 2000 percent, and containing no sand.
- D. Wood Derivatives: Shredded and composted, nitrogen-treated sawdust, ground bark, or wood waste; of uniform texture and free of chips, stones, sticks, soil, or toxic materials.
- E. Manure: Well-rotted, unleached, stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, debris, and material harmful to plant growth.

2.4 FERTILIZERS

- A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:
1. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified testing agency.

PART 3 - EXECUTION

3.1 GENERAL

- A. Place planting soil and fertilizers according to requirements in other Specification Sections.
- B. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in planting soil.
- C. Proceed with placement only after unsatisfactory conditions have been corrected.

3.2 PREPARATION OF UNAMENDED, ON-SITE SOIL BEFORE AMENDING

- A. Excavation: Excavate soil from designated area(s) to a depth of 6 inches and stockpile until amended.

- B. Unacceptable Materials: Clean soil of concrete slurry, concrete layers or chunks, cement, plaster, building debris, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, and other extraneous materials that are harmful to plant growth.
- C. Unsuitable Materials: Clean soil to contain a maximum of 8 percent by dry weight of stones, roots, plants, sod, clay lumps, and pockets of coarse sand.

3.3 PLACING AND MIXING PLANTING SOIL OVER EXPOSED SUBGRADE

- A. Subgrade Preparation: Till subgrade to a minimum depth of 4 inches. Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
- B. Mixing: Spread unamended soil to total depth of 4 inches, but not less than required to meet finish grades after mixing with amendments and natural settlement. Do not spread if soil or subgrade is frozen, muddy, or excessively wet.
 - 1. Amendments: Apply soil amendments and fertilizer, if required, evenly on surface, and thoroughly blend them with unamended soil to produce planting soil.
 - a. Mix lime with dry soil before mixing fertilizer if required.
 - b. Mix fertilizer with planting soil no more than seven days before planting.
 - 2. Lifts: Apply and mix unamended soil and amendments in lifts not exceeding 8 inches in loose depth for material compacted by compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- C. Compaction: Compact each blended lift of planting soil to 75 to 82 percent of maximum Standard Proctor density according to ASTM D 698 and tested in-place.
- D. Finish Grading: Grade planting soil to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

3.4 PLACING MANUFACTURED PLANTING SOIL OVER EXPOSED SUBGRADE

- A. General: Apply manufactured soil on-site in its final, blended condition. Do not apply materials or till if existing soil or subgrade is frozen, muddy, or excessively wet.
- B. Subgrade Preparation: Till subgrade to a minimum depth of 4 inches. Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
 - 1. Apply approximately half the thickness of planting soil over prepared, loosened subgrade. Mix thoroughly into top 4 inches of subgrade. Spread remainder of planting soil.

- C. Application: Spread planting soil to total depth of 4 inches but not less than required to meet finish grades after natural settlement. Do not spread if soil or subgrade is frozen, muddy, or excessively wet.
 - 1. Lifts: Apply planting soil in lifts not exceeding 8 inches in loose depth for material compacted by compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- D. Compaction: Compact each lift of planting soil to 75 to 82 percent of maximum Standard Proctor density according to ASTM D 698.
- E. Finish Grading: Grade planting soil to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

3.5 BLENDING PLANTING SOIL IN PLACE

- A. General: Mix amendments with in-place, unamended soil to produce required planting soil. Do not apply materials or till if existing soil or subgrade is frozen, muddy, or excessively wet.
- B. Preparation: Till unamended, existing soil in planting areas to a minimum depth of 8 inches. Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
- C. Mixing: Apply soil amendments and fertilizer, if required, evenly on surface, and thoroughly blend them into full depth of unamended, in-place soil to produce planting soil.
 - 1. Mix lime with dry soil before mixing fertilizer if required.
 - 2. Mix fertilizer with planting soil no more than seven days before planting.
- D. Compaction: Compact blended planting soil to 75 to 82 percent of maximum Standard Proctor density according to ASTM D 698.
- E. Finish Grading: Grade planting soil to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

3.6 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- B. Perform the following tests and inspections:
 - 1. Compaction: Test planting-soil compaction after placing each lift and at completion using a densitometer or soil-compaction meter calibrated to a reference test value based on laboratory testing according to ASTM D698. Space tests at no less than one for each 2000 sq. ft. of in-place soil or part thereof.
- C. Soil will be considered defective if it does not pass tests and inspections.

- D. Prepare test and inspection reports.
- E. Label each sample and test report with the date, location keyed to a site plan or other location system, visible conditions when and where sample was taken, and sampling depth.

3.7 PROTECTION

- A. Protect areas of in-place soil from additional compaction, disturbance, and contamination. Prohibit the following practices within these areas except as required to perform planting operations:
 - 1. Storage of construction materials, debris, or excavated material.
 - 2. Parking vehicles or equipment.
 - 3. Vehicle traffic.
 - 4. Foot traffic.
 - 5. Erection of sheds or structures.
 - 6. Impoundment of water.
 - 7. Excavation or other digging unless otherwise indicated.
- B. If planting soil or subgrade is over compacted, disturbed, or contaminated by foreign or deleterious materials or liquids, remove the planting soil and contamination; restore the subgrade as directed by Architect and replace contaminated planting soil with new planting soil.

3.8 CLEANING

- A. Protect areas adjacent to planting-soil preparation and placement areas from contamination. Keep adjacent paving and construction clean and work area in an orderly condition.
- B. Remove surplus soil and waste material including excess subsoil, unsuitable materials, trash, and debris and legally dispose of them off Owner's property unless otherwise indicated.

END OF SECTION 32 91 13

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SECTION 32 92 00 - TURF AND GRASSES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Provide all labor, materials, and equipment as necessary to complete all work as indicated on the Drawings and specified herein.
- B. Section Includes:
 - 1. Seeding.
 - 2. Turf renovation
 - 3. Erosion-control material(s)
- C. Related Sections:
 - 1. Section 311000 "Site Clearing" for topsoil stripping and stockpiling.
 - 2. Section 312000 "Earth Moving" for excavation, filling and backfilling, and rough grading.

1.3 DEFINITIONS

- A. Duff Layer: The surface layer of native topsoil that is composed of mostly decayed leaves, twigs, and detritus.
- B. Finish Grade: Elevation of finished surface of planting soil.
- C. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.
- D. MDOT: Michigan Department of Transportation 2012 Standard Specifications for Construction
- E. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. This includes insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. It also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.

- F. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. These include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- G. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or top surface of a fill or backfill before planting soil is placed.
- H. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.
- I. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil, but in disturbed areas such as urban environments, the surface soil can be subsoil.

1.4 ACTION SUBMITTALS

- A. Product Data: For each product indicated
 - 1. Seed Labels: Submit seed labels from bags showing mix composition
 - 2. Fertilizer
- B. Buy America Statement of Compliance: For all iron, steel, and manufactured products used, Contractor shall submit a statement of compliance with 49 C.F.R. Part 661—Buy America Requirements—Surface Transportation Assistance Act Of 1982, As Amended.
 - 1. All iron, steel, and manufactured products shall be produced in the United States; no exceptions permitted.
 - 2. The Contractor is solely responsible for certification of compliance with this requirement for all products used.
 - 3. Products are listed in the Contract Documents to convey the design intent, however some products listed may not be compliant with Buy America; inclusion of products in the specifications does not imply that the specified products are necessarily compliant with Buy America. Contractor remains responsible to verify and document compliance of all products used.
 - 4. If Contractor determines that a specified product does not comply with Buy America, the Contractor remains responsible to provide a comparable product at no additional cost, as required to complete the Work. Such products remain subject to compliance with all other requirements and specified performance criteria and are subject to review and approval by the Architect and Owner through the proper product substitution procedures.

1.5 QUALITY ASSURANCE

- A. Qualifications.
 - 1. Installer Qualifications: The work of this section shall be performed by a contractor specializing in seeding lawn installations and turf maintenance.

2. Turf Maintenance: The maintenance activities for all turf areas shall be performed by skilled employees of the landscape installer.

B. Regulatory Requirements.

1. All seed shall comply with applicable sections of the following references:
 - a. Federal Seed Act
 - b. Michigan Seed Law
 - c. Association of Office Seed Analysts (AOSA): "Rules for Testing Seed".

C. Certifications:

1. Grass Seed: Submit certification from seed vendor for each grass seed mixture stating the botanical and common name, percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging. Include identification of source and name and telephone number of supplier.
2. Pesticide Applicator: Provide information on state commercial pesticide business license and commercial pesticide application certification.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver seed in vendor's original unopened packages bearing the manufacturer's labels. Store in a cool dry location. Replace any seed damaged during storage.
- B. Fertilizers and other chemicals delivered to the site must be in a clearly, labeled, unopened containers showing weight, analysis, and name of manufacturer.
- C. Straw mulch shall be stored off the ground under a cover that provides protection from moisture and humidity.

1.7 PROJECT CONDITIONS

- A. Planting Season:
 1. Seeding: Optimal and preferred seeding period is August 15 through September 15. Alternative seeding period is April 15 through May 30.
 2. Seeding outside the specified windows will only be permitted if approved in writing by the Architect prior to installation.

1.8 WARRANTY

- A. Substantial Completion Inspection: Notify the Architect in writing when work is complete. Within 10 days after notification, the Architect will inspect the work and prepare a Notice of Substantial Completion, along with a punchlist. The issue date of the notice will start the turf establishment period and the warranty period.

1. After receiving a Notice of Substantial Completion establish and maintain all turf (See Part 1.9) in a vigorous, well-kept condition until Final Acceptance of the entire landscape.
- B. Final Inspection: Final Inspection and Acceptance will be at the end of the turf establishment period. Acceptance will be based upon the required work having uniform finished grades conforming to the drawings and vigorous complete cover of the specified species, free of weeds, and/or conditions inconsistent with the installation specified. Areas which do not meet the contract requirements shall be regarded as needed and reseeded. The Contractor shall provide materials and labor necessary to correct any deficiencies as outlined during the warranty period. Repair rejected areas of turf within acceptable planting dates as directed by the Architect.

1.9 MAINTENANCE SERVICE

- A. Provide full maintenance by skilled employees of landscape installer.
- B. Begin maintenance immediately after each area is planted and continue until Final Acceptance of the entire landscape.
- C. Maintenance to include grade repair, irrigation, fertilization, reseeding, mowing, insect and weed control, trimming and edging. Roll, regrade, and replace bare or eroded areas and remulch to provide a uniformly smooth turf. Provide same materials and installation as those used in the original installation.
- D. For seeded lawns, first mowing shall occur when grass blades reach 3 inch height and mow to 2 inch height. Thereafter, each mowing shall occur when the grass has reached a height of 4 inches. Mow to a height of 3 inches. Never remove more than 1/3 of the total height of the grass blades at any single mowing.
- E. Fill any depressions or settlement that occurs within the maintenance period. Reseed bare spots which occur during the maintenance period.
- F. Irrigate seeded lawns as required to supplement natural rainfall so that all lawn areas receive sufficient water for normal plant growth, for a total minimum equivalent to 1 inch water per week. Infrequent but deep watering promotes deep root growth.
- G. If automatic irrigation is not available, Contractor shall provide all equipment needed for watering and be responsible for securing adequate supply of water. Water areas at a minimum rate equivalent to 1 inch rainfall/week. Infrequent but deep watering promotes deep root growth.
- H. Fertilization.
 1. Apply initial starter fertilization 4 weeks after installation of lawn. Use the same analysis commercial fertilizer recommended by soil test reports, or use 0.75 pounds of actual nitrogen and 1 pound P205 (phosphorous) per 1,000 square feet. The timing of this

application may coincide with fertilizer applications given below and should replace the required formulation.

2. During the turf establishment period fertilize lawns a minimum of three (3) times during the growing season, once during each of the following dates:
 - a. Late May, water-soluble slow-release fertilizer providing 1 pound actual nitrogen per 1,000 square feet.
 - b. Mid-September, complete quick-release fertilizer providing 1 pound actual nitrogen per 1,000 square feet.
 - c. Late October, complete quick-release fertilizer providing 1.5 pound actual nitrogen per 1,000 square feet.

PART 2 - PRODUCTS

2.1 SEED

A. Seed.

1. Seed shall be fresh, clean, dry, new-crop seed complying with the AOSA's "Rules for Testing Seed", tested for purity and germination tolerances.

B. Type

MDOT (Michigan Department of Transportation) TUF-Turf Urban Freeway seed mix to be applied at 6 pounds per 1000 sf.

Variety	Proportion By Weight	Purity	Germination
Kentucky Bluegrass	30%	98	85
Perennial Ryegrass	20%	96	85
Creeping Red Fescue	50%	97	85

Maximum weed content shall be 30%

1. Other cultivars may be substituted for approval by Architect, but they must be newer, more improved cultivars than what is listed.

2.2 FERTILIZERS

1. Fertilizer shall be a complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, not less than 30% of the nitrogen from a slow release source. Fifty

percent of the nitrogen shall be derived from natural organic sources. The percentages by weight shall be determined per recommendations of the soil testing reports for lawns.

2.3 STRAW MULCHES

- A. Provide air-dry, clean, mildew- and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.
- B. Straw shall be in an airy dry condition and suitable for placing with commercial mulch blowing equipment.

2.4 EROSION CONTROL BLANKET

- A. Provide temporary erosion control blanket:
 - 1. Erosion control blanket shall be constructed with 100% biodegradable jute fiber on top and bottom, contain 70% agricultural straw (0.35 lbs per square yard) and 30% coconut fiber (0.15 lbs per square yard), and have a typical functional longevity of 18 months, such as North American Green BioNet SC150BN, or approved equal. Plastic weaving will not be permitted.
 - 2. Fasteners for erosion control blanket shall be 11 gauge steel wire, formed into a U-shaped staple 6 inches long.

2.5 WATER

- A. Source: Water shall be provided by the Contractor.
- B. Quality: Water shall be free of substances harmful to plant growth.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Contractor must examine the areas and conditions under which all items are to be installed and notify the Architect in writing of conditions detrimental to the proper and timely completion of the work. Lawn installation will not proceed until unsatisfactory conditions have been corrected in a manner acceptable to the Architect.
- B. Do not mix or place soils and soil amendments in frozen, wet, or muddy conditions.
- C. Suspend spoil spreading, grading, and tilling operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.

- D. Uniformly moisten excessively dry soil that is not workable and which is too dusty.

3.2 TURF AREA PREPARATION

- A. Limit turf subgrade preparation to areas to be planted.

- 1. Areas identified for intermediate temporary soil stabilization shall not be prepared with topsoil. Contractor shall review temporary stabilization areas with Architect.

- B. Grade Preparation.

- 1. Maintain rough grades in the areas to be topsoiled in a uniform condition so as to prevent future depressions. Prior to placing topsoil, repair disturbances to previously graded areas and remove surplus subgrade material associated with any landscape construction. Scarify areas to a depth of 6 inches prior to topsoil placement. Scarifications shall have a maximum 2 foot separation and be cut in two directions, one perpendicular to the other.
 - 2. If the prepared grade is eroded or compacted by rainfall prior to fertilizing, rework the surface as specified. Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
 - 3. Soil Amendments.
 - a. Amend soil with lime or sulfur as recommended by soil tests, working it into the top 4 inches of soil at same time as fertilizer application.
 - 4. Fertilizer.
 - a. Uniformly distribute fertilizer by mechanical means at the rate recommended by soil tests.
 - b. Uniformly distribute fertilizer by mechanical means at the rate of 10 pounds of 10-10-10 per 1,000 square feet (to make 1 pound of actual nitrogen per 1,000 square feet).
 - c. Work fertilizer into the top 4 inches of soil. Cultivating equipment shall be set so that the fertilizer will not penetrate into the soil more than 4 inches. Do not apply fertilizer when there is a possibility of rain before lawn areas can be seeded.

- C. Placing Topsoil

- 1. Uniformly distribute topsoil on lawn areas so that after compaction and finish grading, topsoil depth is (4"). Placement shall include spreading, cultivating, lightly compacting, dragging and grading to the conditions specified below.
 - 2. Topsoil, when placed, shall be dry enough so as not to puddle or bond. Do not place topsoil when the subgrade is frozen, excessively wet, extremely dry or in a condition otherwise detrimental to proper grading or lawn operation.
 - 3. Immediately before seeding scarify, loosen, float, and drag topsoil as necessary to bring it to the proper condition. Remove all foreign matter larger than 1 inch indiameter.

- D. Finished Grades

1. Finished grades shall slope to drain, be free of depressions or other irregularities after thorough settlement and compaction of soil, and shall be uniform in slope between grading controls and the elevations indicated.
2. Finished grade for seeded lawn areas shall meet existing grades at contract limits and be ½ inch below top of curbs, walk paving, and metal edging if used.

3.3 SEEDING

- A. Do not sow seed when weather conditions are unfavorable, such as during drought or high winds.
- B. Perform seeding using an approved drop spreader/seeder with cultipacker.
- C. Sow the seed uniformly at a rate of 6 lbs/1000 square feet. All areas shall be seeded in at least two directions, one perpendicular to the other. Turfgrass seeds shall not be covered by more than ¼ inch of soil. The seeding device shall lightly roll the seed bed to provide good moisture contact between the seed and soil.
- D. Water thoroughly and immediately with a fine mist until soil is soaked to a depth of 2 inches. Puddling of water or allowing the seedbed to dry is unacceptable.
- E. Spread straw mulch evenly at the rate of 2 tons per acre. Place all mulch on given areas within 24 hours after seeding. A mechanical blower may be used to apply mulch material, provided the machine has been specifically designed and approved for this purpose. Anchor the mulch by either using a crimping device or applying tackifier on the mulched surface. When tackifier is used, it may be applied either simultaneously or in a separate application. Take precautionary measures to prevent tackifier materials from marking or defacing structures, pavements, utilities, or plantings.
- F. Maintain soil in a moist condition (in hot dry weather irrigation may be required 2-4 times per day) until seeds have sprouted and reached a height of 1 inch. Water thereafter a minimum of once every 2-3 days unless natural rainfall has provided equivalent watering. Provide irrigation to moisten soil to a depth of 4 inches to encourage deeper rooting.

3.4 TEMPORARY SOIL STABILIZATION

- A. On disturbed areas that will not receive final landscape/plant material installation or final seeding within two weeks of being disturbed, the Contractor shall provide temporary soil stabilization. Contractor shall apply straw mulch to all exposed areas after scarifying and fine grading takes place.
- B. Spread a loosely applied layer of clean, chopped straw at the rate of 2 tons/acre (90 lbs/1000 square feet) to form a continuous blanket 1-1/2" in loose thickness.

3.5 EROSION CONTROL BLANKET

- A. Install erosion control blankets on slopes 1:3 or steeper or in corrective situations where water flow has eroded and disrupted lawn establishment.
- B. Immediately following seeding, erosion control blanket shall be rolled out in place in the direction of the slope fall line. The material shall be applied without stretching and shall lie smoothly but loosely on the soil surface. Installer shall minimize walking directly on the seed or topsoil bed either before or after the blanket is applied.
- C. All ends shall be buried a minimum of 4 inches deep and the trench shall be firmly tamped after closing.
- D. In cases where roll ends join, the up-slope piece shall overlap the down-slope piece by at least 18 inches.
- E. Staple edges prior to backfilling trench, all overlaps at 12 inch intervals, and the center of each panel on 3 foot intervals.
- F. The upslope ends of the blanket shall be buried a minimum of 6 inches deep and stapled at 12 inch intervals prior to backfilling trench.
- G. Reseed all disturbed edges immediately following straw blanket installation and work seed into blanket.

3.6 TURF RESTORATION

- A. Paved areas over which hauling operations have been conducted shall be kept clean. Promptly remove materials spilled on pavement.
- B. Repair existing lawns damaged by operations under contract. Repair shall include finish grading, seeding, as required to match existing grade and lawn, and maintenance of repair areas.
 - 1. Reestablish turf where settlement or washouts occur or where minor regrading is required.
 - 2. Install new planting soil as required.
- C. Remove sod and vegetation from diseased or unsatisfactory turf areas; do not bury in soil.
- D. Remove topsoil containing foreign materials such as oil drippings, fuel spills, stones, gravel, and other construction materials resulting from Contractor's operations, and replace with new planting soil. Upon completion of lawn installation, remove from the site and legally dispose of the following:
 - 1. Surplus subgrade material
 - 2. Stone and foreign matter.

- E. Mow, dethatch, core aerate, and rake existing turf.
- F. Remove weeds before seeding. Where weeds are extensive, apply selective herbicides as required. Do not use pre-emergence herbicides.
- G. Remove waste and foreign materials, including weeds, soil cores, grass, vegetation, and turf, and legally dispose of them off Owner's property.
- H. Till stripped bare, and compacted areas thoroughly to a soil depth of 6 inches.
- I. Apply soil amendments and initial fertilizers required for establishing new turf and mix thoroughly into top 4 inches of existing soil. Install new planting soil to fill low spots and meet finish grades.
- J. Apply seed and hydroseed as required for new turf.
- K. Water newly planted areas and keep adequately watered through establishment period.

3.7 CLEANUP AND PROTECTION

- A. Perimeter silt fence and inlet protection shall remain in place adjacent to all temporary soil stabilization areas.
- B. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after plantings are established.
- C. Remove nondegradable erosion-control measures after grass establishment period.

END OF SECTION 32 92 00

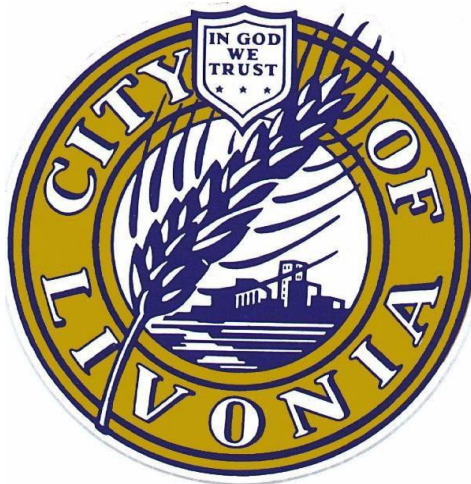
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CITY OF LIVONIA – REQUEST FOR BID

FOR

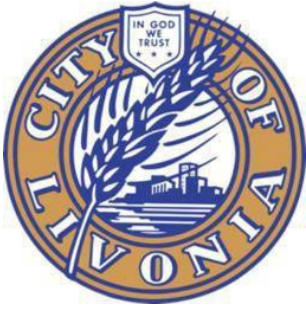
2142-7258-09 – Livonia Generator

**April 10, 2025
(RE-BID)**



**CITY OF LIVONIA
DEPARTMENT OF PUBLIC WORKS**

**12973 Farmington Road
Livonia, MI 48150
(734) 466-2655**



CITY OF LIVONIA, MICHIGAN

Fire Stations #3, #6, & Dept. Of Public Works - **Generator Replacement Request for Bid**

ISSUED: **July 10, 2024**

Prepared For:
City of Livonia
Department of Public Works Engineering
12973 Farmington Rd
Livonia, MI 48154

Project Site:
32777 Five Mile Rd.,
Livonia, MI 48154

Prepared by:
DLZ MICHIGAN, INC.
Project No: 2142-7258-09

STAMPS / SEALS



607 Shelby St., Ste. 650 Detroit, MI 48226 | OFFICE 313.961.4040 | ONLINE WWW.DLZ.COM

Akron Bellefontaine Bridgeville Burns Harbor Chicago Cincinnati Cleveland Columbus Detroit Fort Wayne Grand Rapids Indianapolis Joliet
Kalamazoo Lansing Lexington Logan Madison Maumee Melvindale Merrillville Munster Muskegon Port Huron Saint Joseph San José
South Bend Waterford

2142-7258-09 – LIVONIA GENERATOR REPLACEMENTS

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NOTICE TO BIDDERS
CITY OF LIVONIA, MICHIGAN

Generator Replacements

The City of Livonia is requesting proposals for the **Generator Replacements at Fire Station #3, #6, and Department of Public Works**. The City of Livonia seeks proposals for the following:

Installing a new exterior generator with concrete pad and bollards and a concrete pad mounted exterior ATS adjacent to the Building Maintenance building at the Department of Public Works. Demolition of the existing exterior generator and installing a new exterior generator, concrete pad, exterior ATS on concrete pad, and a masonry block screen wall with metal security gate and door with electronic lock at Fire Station #3. Demolition of the existing exterior generator, concrete pad, and wooden slat screen wall and installing a new exterior generator, concrete pad, exterior ATS on concrete pad, and a masonry block screen wall with metal security gate and door with electronic lock at Fire Station #6.

Plans and specifications will only be available online at the Michigan Inter-Governmental Trade Network (MITN) Purchasing Group at <https://www.bidnetdirect.com/mitn> beginning April 10, 2025. Hard copies of plan and specifications will not be available for purchase. Instructions to bidders may be obtained by registering with MITN at <https://www.bidnetdirect.com/mitn>.

Electronic proposals will be received through the Michigan Inter-Governmental Trade Network (MITN) Purchasing Group at <https://www.bidnetdirect.com/mitn> until **2:00 P.M.** local time on Tuesday, May 6, 2025, at which time the bids will be publicly opened and read aloud..

There will be a pre-bid meeting and site walk-thru held at 10:00 A.M. on April 22, 2025 at the Livonia Fire Station #6, 37876 Plymouth Rd, Livonia, MI 48150. Prospective bidders must attend the pre-bid meeting to be eligible. Pre-bid meeting minutes will be distributed as an addendum to the contract documents to all parties in attendance.

Bidders are to submit questions in writing to the attention of Gus Kandah, Purchasing Manager at gkandah@livonia.gov. **No phone calls will be accepted.**

Proposals submitted by Bidders who have been debarred, suspended, or made ineligible by any Federal Agency will be rejected.

Each bidder agrees to waive any claim it has or may have against the Owner, the Architect, and their respective employees, arising out of or in connection with the administration, evaluations, or recommendation of any bid.

Each proposal shall be accompanied by a bid security in the amount of five percent (5%) of the proposal, payable to the City of Livonia, as security for the acceptance of the contract. A bid

bond on the Michigan Standard Form, issued by an approved Surety Company, may be furnished. Bidder's wishing to submit their bid security in a cashier's check shall include a photograph of the check with their bid proposal. The City will make arrangements to collect bid securities after the bid opening.

All bids shall be opened publicly at the date and time specified. Each bid shall be recorded together with the name of the bidder. Bids shall be in accordance with the requirements of this notice in order to be deemed "responsive."

Bids received via the MITN website by the specified due date and time will be publicly opened at the due date and time via Zoom. Vendors may attend the bid opening virtually by using the following credentials:

By Computer: <https://us02web.zoom.us/j/82294127641>

By Phone: (312) 626-6799; Webinar ID: 822 9412 7641

No bidder may withdraw his proposal within one hundred twenty (120) calendar days after the date set for opening thereof. The right to accept any bid, to reject any or all proposals and to waive irregularities in bidding is reserved by the City of Livonia. Portions of this Contract may be deleted due to unforeseen circumstances without compensation. Acceptance of any bid does not constitute a binding agreement until a written Contract is signed by both parties.

The successful bidder will be required to furnish satisfactory Performance, Labor and Material, and Maintenance and Guarantee Bonds.

Douglas Moore, P.E.
Assistant Director, Department of Public Works

Maureen Miller Brosnan
Mayor

CITY OF LIVONIA
Wayne County, Michigan

INSTRUCTIONS TO BIDDERS

1. QUALIFICATIONS OF BIDDER

To demonstrate Bidder's qualifications to perform the Work, the OWNER requires the Bidder to furnish all of the applicable information on the enclosed Statement of Qualifications and Project References as well as the Subcontractor List. The aforementioned statement must be submitted with the sealed Bid at the time of the Bid Opening.

2. ADVERTISEMENT

The published Advertisement for Bids for the proposed work contains information necessary to Bidders. A copy of the Advertisement for Bids is attached hereto as the Notice to Bidders and is to be considered a part of the Instructions to Bidders as fully as if repeated herein.

3. EXAMINATION OF THE CONTRACT DOCUMENTS

Before submitting a Bid, each Bidder should:

- a. Examine the Contract Documents (including any Addenda and the other related data identified in the Bidding Documents) thoroughly;
- b. Visit the site to become familiar with local conditions that may in any manner affect performance of the Work;
- c. Become familiar with Federal, State, and local laws, ordinances, rules and regulations affecting performance of the work; and
- d. Carefully correlate his observations with the requirements of the Contract Documents.

Where information concerning existing conditions, including subsurface conditions, is provided in the Contract Documents, such information is provided for the convenience of the Bidder and not as a guarantee of conditions. The Bidder shall be satisfied as to the sufficiency and representation of such data, and shall make all investigations necessary so that the Bid shall be based upon knowledge and estimation of conditions to be met. The Bidder shall make all the investigations necessary to become adequately informed regarding the availability of all facilities which will be required to perform the work.

Submission of a Bid will constitute an incontrovertible representation by the Bidder that Bidder has complied with all the requirements of this Section.

4. PRE-BID CONFERENCE

A Pre-Bid meeting may be held if noted in the Advertisement or Invitation to Bid. Representatives of OWNER and ARCHITECT will be present to discuss the Project. Bidders are required to attend and participate in the conference. ARCHITECT will transmit to all prospective Bidders of record such Addenda as ARCHITECT considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

5. INTERPRETATION OF CONTRACT DOCUMENTS

All questions about the meaning or intent of the Contract Documents shall be submitted to the ENGINEER in writing. Replies will be issued by Addenda and mailed or delivered to all parties

recorded by the PURCHASING MANAGER as having received the Bidding Documents. Questions received less than four (4) days prior to the date of opening of Bids will not be answered. Only those questions that are answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

6. ADDENDA

Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed by OWNER or ARCHITECT. Any addenda issued during the time of bidding or forming a part of the Contract Documents shall be included in the Bid and shall be made a part of the Contract Documents. Receipt of each Addendum shall be acknowledged in the Bid.

7. BID SECURITY

A Bid must be accompanied by Bid security made payable to OWNER in an amount of 5% of Bidder's maximum Bid price. The required security must be in the form of a certified or bank cashier's check made payable to the City of Livonia or a Bid bond by a surety licensed to conduct business in the State of Michigan and named in the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Federal Register by the Audit Staff Bureau of Accounts, U.S. Treasury Department. Attorneys-in-fact who execute the Bid Security or Bid Bond on behalf of the Surety shall affix to the bond a certified and copy of the power of attorney. The Bid security of the successful Bidder will be retained until the Agreement has been executed and the successful bidder has furnished the required Contract security, whereupon Bid Security will be returned. If Bidder fails to execute and deliver the Agreement and furnish the required Contract security within ten days of receipt of the Notice of Award, OWNER may annul the Notice of Award and the Bid security of that Bidder will be forfeited. The Bid Security of any Bidder whom OWNER believes to have a reasonable chance of receiving the Award may be retained by the OWNER until the earlier of the seven (7) days after the effective date of the Agreement or 120 days after the Bid opening. Bid Security of other Bidders will be returned within seven (7) days of the Bid opening.

8. CONTRACT TIME

The number of days allowed for the Completion of Work (the Contract Time) is set forth in the Bid and will be included in the executed Agreement. Any provisions for liquidated damages are set forth in the Contract Documents.

9. SUBSTITUTE AND "OR EQUAL" ITEMS

The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or "or equal" items. Whenever materials or equipment are specified or described in the Bidding Documents by using the name of one or more Suppliers, the Bid shall be based on providing the materials or equipment of one of the Suppliers named. Whenever it is specified or described in the Bidding Documents that a substitute or an "or equal" item of material may be furnished or used by CONTRACTOR if acceptable to ARCHITECT, application for such acceptance will not be considered by ARCHITECT until after the Effective Date of the Agreement.

10. SUBCONTRACTOR, SUPPLIERS AND OTHERS

The Bidder to whom an Award is made will not be entitled to additional compensation or extension of Contract Time by reason of failure to fully understand all Subcontractor or Supplier quotations. The Bidder is responsible for all coordination between Subcontractors and Suppliers during bidding and construction so that work is completed for the Contract Price and within the Contract Time.

11. PREPARATION OF BID

The Bid form is included with the Bidding Documents. Additional copies may be obtained from MITN website. All blanks on the Bid form shall be completed by printing in ink or by typewriter and the Bid signed. A Bid price shall be indicated for each unit price item listed therein, or the words "no Bid", "No Change", or "Not Applicable" entered. In case of discrepancy between the Total Amount Bid and the summation of the products of item quantity and unit price, unit prices shall govern.

The Bid shall contain an acknowledgement of receipt of all Addenda, the numbers of which shall be filled in on the Bid form. Alternate Bids will not be considered unless expressly requested by the OWNER or ARCHITECT. Oral Bids will not be considered. A conditional Bid or conditions attached to Bids shall have no force or effect.

Submit the completed Bid form, Statement of Qualifications and Project References, the Subcontractor List, and bid surety **by uploading the required documents in PDF format via the MITN website on or before the due date and time specified.**

12. REQUIREMENTS FOR SIGNING BIDS

A Bid that has not been signed by the individual authorized to do so shall have attached thereto a Power of Attorney evidencing authority to sign the Bid in the name of the person for whom it is signed. Bids that are signed by a partnership shall be signed by all of the partners or by an Attorney-in-Fact. If signed by an Attorney-in-Fact, there shall be attached to the Bid a Power of Attorney evidencing authority to sign the Bid, executed by the partners.

Bids that are signed for a corporation shall have the correct corporate name thereof and the signatures of the president or other authorized officers of the corporation manually written below the corporate name following the word "By." If such a Bid is manually signed by an officer other than the president of the corporation, a certified resolution of the Board of Directors evidencing the authority of such official to sign the Bid shall be attached to it. Such a Bid shall also bear the attested signature of the secretary of the corporation and the impression of the corporate seal.

13. MODIFICATION OR WITHDRAWAL OF BIDS

Any Bidder may withdraw its Bid, by written request to the Purchasing Manager, at any time prior to the scheduled time for Bid Opening. If, within 24 hours after Bids are opened, any Bidder files a duly signed, written notice with OWNER and promptly thereafter demonstrated to the reasonable satisfaction of OWNER that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

No withdrawal of a Bid shall be permitted on account of mistake or any other reason after the expiration of this 24-hour period.

14. OPENING OF BIDS

Bids will be opened at the time and place indicated in the Advertisement for Bids and, read aloud publicly. An abstract of the amounts of the Bids and alternates, if any, will be made available to Bidders after the opening of Bids. Bid opening results will be posted to the MITN website.

15. AWARD OF CONTRACT

The OWNER reserves the right to accept any Bid or alternate and award the Contract to other than the lowest bidder; to waive any irregularities or informalities, or both; to reject any or all Bids; and in general to make the award of the Contract in any manner deemed by the OWNER, in its sole discretion, to be in the best interests of the OWNER.

More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of the Bidder and the rejection of all Bids in which that Bidder has an interest.

Opening and reading the Bids shall not constitute the acceptance of a Bidder as qualified. The right is reserved by the OWNER to determine a Bidder's qualifications, either from the OWNER'S knowledge or from other sources.

Should the OWNER be unable to award the Contract within 90 calendar days following the opening of Bids, the OWNER reserves the right to award the Contract at a later date to the lowest qualified Bidder at its Bid price, providing said Bidder is willing to accept such award.

Award of the Contract may be contingent upon receipt of permits from involved outside regulatory agencies, and commitment of funding to the Project by the OWNER. The OWNER reserves the right to delay issuance of a Notice to Proceed or terminate the Contract pending acquisition of such permits. The CONTRACTOR shall not be entitled to compensation or damages in the event of such termination.

The OWNER further reserves the right to require the CONTRACTOR to schedule work in such a manner as to remain outside of those areas for which easements have not been obtained until such time as easements are obtained. The OWNER further reserves the right to add or delete items of work or entire sections of work for any reason whatsoever, including but not limited to, budgetary constraints or the inability to obtain necessary construction easements.

16. INSURANCE

The successful Bidder will be required to carry insurance in the amounts and kinds specified in the General Conditions, as may be modified by the Supplementary Conditions. Such insurance must be issued by companies and in a form satisfactory to the OWNER. Certificates of such insurance must be attached to each copy of the executed Contract Documents. These certificates shall contain a provision that coverages afforded under the policies will not be cancelled or materially changed unless at least thirty (30) days prior written notice has been

given to the OWNER and ARCHITECT, as evidenced by return receipt or registered or certified mail.

17. BONDS

The successful Bidder will be required to furnish for each set of executed Contract Documents and conformed copies thereof, original conformed performance bond, payment bond and maintenance and guarantee bonds on the forms attached hereto a surety acceptable to the OWNER and meeting the requirements specified in the General Conditions, as may be modified by the Supplementary Conditions.

18. EXECUTION OF THE AGREEMENT

When the OWNER issues a Notice of Award to the successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement bound into the Project Manual with the other Contract Documents. Within ten (10) days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to the OWNER. Within ten (10) days thereafter, OWNER will deliver one fully signed counterpart to the Successful Bidder.

In case of failure to comply with this requirement, the Successful Bidder shall be considered to have abandoned all rights and interest in the Award and its Bond Security may be declared forfeited to the OWNER and the Contract may be awarded to another Bidder.

19. PROGRESS MEETING

A bi-weekly progress meeting will be held at the **Department of Public Works, located at 12973 Farmington Road, Livonia, MI 48150**. The bi-weekly meetings will start during the first week when the Contractor or one of his sub-contractors is scheduled to begin work as presented at the pre-construction meeting. The time and day of the progress meetings will be scheduled at the pre-construction meeting.

Representatives of the Contractor and any sub-contractors scheduled to perform work during the upcoming week will be required to attend. The City of Livonia will be represented by the Assistant Director of Public Works or Facility Maintenance Supervisor.

Meetings will continue until the project is complete or work is suspended due to weather or seasonal limitations. Meetings will be rescheduled when the work suspension is lifted.

The site of the meeting may be changed to the project site at the discretion of the Assistant Director of Public Works or Facility Maintenance Supervisor. Only the Assistant Director of Public Works or Facility Maintenance Supervisor may cancel a scheduled progress meeting. A failure of the Contractor to attend the scheduled meetings may result in increased retainage being imposed until the situation is corrected.

FORM OF PROPOSAL
for
LIVONIA GENERATOR REPLACEMENT

Bid of _____ hereinafter called Bidder, organized and existing under the laws of or a resident of the State of Michigan, doing business as _____*.

* Insert as applicable: "a corporation", "a partnership" or "an individual"

TO THE CITY OF LIVONIA, MICHIGAN, hereinafter called OWNER:

The undersigned as Bidder hereby declares: that this Bid is made in good faith without fraud or collusion with any person or persons bidding on the same Contract; that the Bidder has read and examined the Notice to Bidders, Instructions to Bidders, Bid, General Conditions, Supplementary Conditions, Agreement, Forms of Proposal, Bond, Specifications and Drawings, as prepared by the ARCHITECT, and understands all of the same; that the Bidder or its representative has made personal investigation at the site and has become fully familiar with regard to the conditions to be met in the execution of this Contract, and the undersigned proposes to furnish all labor, materials, tools, power, transportation, and construction equipment necessary for the construction of the Project and performing related work in full accordance with the aforesaid Contract Documents, including any and all Addenda officially issued, their receipt of which is hereby acknowledged:

Addendum No.

Addendum Date

The Contract will be awarded to the lowest responsive, responsible Bidder based on the total lump sum amount for all work associated with the Scope of Work and inclusive of all specified allowances. Schedule of Values to be presented 24 hours after request.

The Bidder agrees to complete the Project for the following lump sum price:

Item No.	Item Description	Qty	Unit	Unit Price (\$)	Total Price (\$)
1	Livonia Fire Station # 3 Generator, Installation and all work specified in summary of work for this site.				
2	Livonia Fire Station # 6 Generator, Installation and all work specified in summary of work for this site.				
3	DPW Generator, Installation and all work specified in summary of work for this site.				
TOTAL BID			\$		

Bidder:

If the foregoing Bid shall be accepted by the OWNER, the undersigned agrees to enter into the attached form of Agreement within ten (10) days after receiving notice of such acceptance, will furnish the OWNER satisfactory bonds and certificates of insurance coverage, and will complete the Project, at the price and within the time stated in this Bid.

The undersigned further agrees that if the foregoing Bid shall be accepted, work will commence immediately after the Contract has been awarded, the Agreement executed, and a Notice to Proceed received. **The undersigned shall complete the Work to Substantial Completion within 180 CALENDAR DAYS of "Notice to Proceed", and to Final Completion within 210 CALENDAR DAYS of "Notice to Proceed".** Substantial completion shall be met when summary OF WORK ITEMS COMPLETED TO CONSIDER SUBSTANTIAL COMPLETION. Final completion shall be met when all restoration items and punch-list work items have been completed.

The undersigned attaches hereto its Bid security, as required by the Notice to Bidders and Instructions to Bidders. The undersigned agrees that in case it shall fail to fulfill its obligations under the foregoing Bid, and/or shall fail to furnish bonds, as specified, the OWNER may, at its option determine that the undersigned has abandoned its rights and interests in such Contract and that its Bid security accompanying its Bid; has been forfeited to the said OWNER, but otherwise the Bid security shall be returned to the undersigned upon the execution of the Contract and the acceptance of the bonds.

The undersigned also agrees that for each and every calendar day that he may be in default of Substantial Completion of the Work, within the time specified in this Bid, the OWNER will suffer a damage of \$1,000.00 per day, and said OWNER shall be compensated therefore at the rate as liquidated damages in accordance with the Agreement.

In submitting this Bid, it is understood that the right is reserved by the OWNER to accept any bid, to reject any or all Bids, and to waive irregularities in bidding in the interest of the OWNER.

SUBMITTED on _____
Date*

BY: _____
Name of Bidder*

Street*

Signature

City, State, ZIP*

Name and Title of Signatory*

Telephone Number*

Facsimile Number*

*Typed or printed in ink.

Bidder must answer all questions. If more space is needed to complete a question, attach a separate sheet. Bidder may submit any additional information.

Name: _____

Address: _____ Phone: _____

Number of years operating under your present name: _____

General nature of work performed by your company: _____

Background and experience of the principal members of your organization including officers: _____

Major equipment available for this contract: _____

PROJECT REFERENCES

List similar projects completed within the last (3) years:

Project Title: _____

Client: _____

Contact Person: _____ Phone: _____

Contract Amount: _____

Start Date: _____ Completion Date: _____

Project Description: _____

Project Title: _____

Client: _____

Contact Person: _____ Phone: _____

Contract Amount: _____

Start Date: _____ Completion Date: _____

Project Description: _____

Project Title: _____

Client: _____

Contact Person: _____ Phone: _____

Contract Amount: _____

Start Date: _____ Completion Date: _____

Project Description: _____

Project Title: _____

Client: _____

Contact Person: _____ Phone: _____

Contract Amount: _____

Start Date: _____ Completion Date: _____

Project Description: _____

Form Completed by: _____

Name - Title

Signature

Date

SUBCONTRACTOR LIST

<u>ITEM</u>	<u>NAME, ADDRESS & PHONE # OF CONTRACTOR</u>
	Phone:
	Phone:
	Phone:
	Phone:
	Phone:

BIDS FROM CITY-BASED FIRMS - [3.04.140.F LIVONIA CODE OF ORDINANCE](#)

In comparing bids, the bid of any city-based firm may be deemed a better bid than the bid of any competing firm which is not city-based, whenever the bid of such competing firm shall be less than three (3) percent lower than the bid of the city-based firm on any contract bid in an amount of two hundred thousand dollars (\$200,000.00) or less, and less than one (1) percent lower on any amount bid in excess thereof. The foregoing percentages shall each be deemed to apply to the city-based bid and, as the case may be, to the full and complete amount of the contract bid, e.g., the equalization credit of one (1) percent would apply to the full contract amount bid, and not merely to the amount in excess of two hundred thousand dollars (\$200,000.00). The firm making the lowest bid thus evaluated shall be deemed the lowest bidder. No contract hereafter awarded by reason of an equalization percentage credit shall be sublet to any subcontractor which is not a city-based firm. Any bidder who claims entitlement to an equalization percentage credit shall agree to make available to the city the records necessary to establish eligibility. [Section 3.04.140\(E\)](#) shall not apply to contracts authorized pursuant to [Section 3.04.140\(D\)](#). "City-based firm" means a firm which is located within the city and which has made payment of commercial, office, manufacturing or research and engineering property taxes on real or personal property for at least one (1) calendar year.

City of Livonia
1304A (03/15)

PROOF OF INSURANCE FOR CITY OF LIVONIA

Information required by the Federal specifications for Highway construction and/or Act 327, P.A. of 1945 to verify insurance.

The subscribing insurance company certifies that insurance of the types and for limits of liability covering the work under contract with City of Livonia has been obtained by the contractor named below.

Such insurance, here certified, is written in accordance with the company's regular policies and endorsements subject to the company's applicable manuals of rules and rates, except (1) the insurance shall not be subject to the usual "x" – explosion, "c" – collapse or "u" – underground property.

NAME OF INSURED			
ADDRESS		CITY	STATE ZIP CODE
TELEPHONE NO.		FAX NO.	

TYPE OF INSURANCE	POLICY NUMBER & NAME OF INSURANCE COMPANY (If more than one)	POLICY EFFECTIVE	DATES EXPIRATION	LIMITS: Each Occurrence: \$1,000,000 Aggregate: \$2,000,000 BODILY INJURY AND PROPERTY DAMAGE LIABILITY	
☐ General Liability				General Aggregate	\$
☐ Professional Liability				Prods. comp/ops Aggregate	\$
☐ Commercial General Liability				Personal & Advertising Inj.	\$
☐ Claims Made ☐ Occurrence				Each Occurrence	\$
☐ \$_____ P.D. Deductible				Fire Damage (any one fire)	\$
☐ XCU Exclusion				Medical Exp. (any one person)	\$
☐ Owners/Contractors Protective					
AUTOMOTIVE LIABILITY					
☐ Any Auto				Combined Single Limit (Minimum \$2,000,000.00)	\$
☐ All Owned Autos				Bodily Injury (per person) (Minimum \$500,000.00)	\$
☐ Scheduled Autos				Bodily Injury (per accident) (Minimum \$1,000,000.00)	\$
☐ Hired Autos					\$
☐ Non-Owned Autos					\$
☐ Garage Liability					\$
☐ Umbrella					
☐ Excess Liability Other Than Umbrella				Each Occurrence	\$
				Aggregate	\$
WORKERS COMPENSATION AND EMPLOYERS LIABILITY					
				STATUTORY	
				\$	(Each Accident)
				\$	(Disease- Policy Limit)
				\$	(Disease- Each Employ.)
☐ Other					

NAME OF AGENCY		NAME OF INSURANCE COMPANY (If only one for all policies)	
ADDRESS		CITY	STATE ZIP CODE
TELEPHONE NO		FAX NO.	

CITY OF LIVONIA
GENERAL CONDITIONS

<u>SECTION</u>	<u>TOPIC</u>
1.	CONTRACT DOCUMENTS
2.	DEFINITIONS
3.	INTENT OF THE CONTRACT DOCUMENTS
4.	CONTRACT DRAWINGS AND SPECIFICATIONS
5.	SHOP DRAWINGS
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7.	"OR EQUAL" CLAUSE
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9.	SUPERINTENDENCE
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**CITY OF LIVONIA
GENERAL CONDITIONS CONTINUED**

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38.	FAIR EMPLOYMENT PRACTICES ACT
39.	LIQUIDATED DAMAGES
40.	INSPECTOR DAYS
41.	FORCE ACCOUNT BASIS
42.	FIELD OFFICE

**CITY OF LIVONIA
GENERAL CONDITIONS**

1. CONTRACT DOCUMENTS

The Contract Documents shall consist of the Notice to Bidders, Proposal, General Conditions, Specifications, Bonds, Plans, Drawings, Contract and any additional documents, which may be made a part of the contract.

2. DEFINITIONS

Certain terms when used in the Contract Documents shall be respectively defined as follows:

"City or Owner"	The City of Livonia
"Contractor"	The person, firm or corporation to whom the within contract is awarded by the Owner and who is subject to the terms hereof.
"Subcontractor"	A person, firm or corporation, other than a Contractor, supplying labor and/or materials, which contribute in any manner to performance of the within contract.
"Surety"	Any person, firm or corporation that has executed, as surety, the Contractor's bonds securing the performance of the within contract.
"Engineer"	The City Engineer of the City of Livonia or any of his designated representatives.

3. INTENT OF THE CONTRACT DOCUMENTS

The respective Contract Documents are complementary, so that requirements of any particular document shall be applicable to all. The contract price, as such term is used in the Contract Documents, shall include the cost of all superintendence, labor and materials, and all other expenses necessary for the proper execution of the work.

The specifications, schedules, plans and drawings herein referred to shall be taken together to explain each other and to make the whole consistent. Work shown on a plan and not mentioned in the specifications, or vice versa, shall be performed as if shown on both, and, in case of ambiguity in the plans and specifications, the Engineer will decide as to the correct interpretation thereof. Where errors or

omissions are encountered in the contract documents, the applicable sections of the current edition of the Michigan Department of Transportation Standard Specifications for Construction shall prevail. A copy of this document may be acquired by contacting the Contract Division, Michigan Department of Transportation, P.O. Box 30050, Lansing, Michigan 48090. When not otherwise specifically defined in the Contract Documents, words therein which describe materials or work having a well-known technical or trade meaning, recognized by architects, engineers and the trade, shall be construed in accordance with such meaning.

4. CONTRACT DRAWINGS AND SPECIFICATIONS

The Contractor shall be held to have compared the premises with the contract drawings and specifications, prior to submitting a proposal, and to have fully informed himself as to the condition of the premises, existing structures and any other condition affecting the carrying out of the work. No additional consideration or compensation will be allowed by reasons of obvious errors or omissions in the contract drawings or specifications.

Unless otherwise provided in the Contract Documents, the City will furnish the Contractor free of charge copies of all contract drawings and specifications reasonably necessary to carry out the work.

All work shall strictly conform with the contract drawings and specifications, and the Contractor shall not proceed without reference thereto.

Approved or conformed copies of the contract drawings and specifications shall be maintained at the work-site by the Contractor and be made available to the City at all times.

5. SHOP DRAWINGS

The Contractor shall submit to the Engineer all shop or setting drawings and schedules required for the work, make any corrections therein required by the Engineer, and resubmit same without delay.

Approved copies of all shop or contract drawings shall be maintained at the work-site by the Contractor and be made available to the City at all times.

6. SOIL CONDITIONS

The Contractor shall be held to have made his own determination of soil conditions on the premises, prior to submitting a proposal, and shall complete the work in whatever soil materials and under whatever conditions he may encounter or create, without additional cost to the Owner. This shall apply whether or not borings are shown on the drawings.

7. "OR EQUAL" CLAUSE

Whenever an article, material, or item of equipment is specified in any of the Contract Documents by describing a proprietary product, or by using the name of a manufacturer or vendor, the term "or equal", if not inserted, shall be implied.

The specified article, material, or equipment shall be understood as indicating the type, function, minimum standard of design, efficiency and quality desired and shall not be construed in such a manner as to exclude manufacturers' products of comparable quality, design and efficiency. The Contractor shall comply with requirements in the Contractor's Documents relative to the City's approval of materials and equipment before they are incorporated in the work.

8. PATENTS AND INFRINGEMENTS

The Contractor agrees to indemnify and save the City, its servants and agents, harmless against any and all claims for royalties or infringements of patent rights in respect to tools, appliances, equipment, processes, or systems of construction and materials made, furnished or used under this Contract, and to defend at his own expense any and all suits of law or in equity which may be brought against the City, its servants or agents, for such claims; provided, however, that the City, its servants or agents, gives the Contractors immediate notice in writing of the institution of such suits and authorizes him to defend the same, furnishing him with such reasonable assistance and available information as will enable him to so defend. The provisions of this paragraph shall be binding upon the parties hereto, notwithstanding anything to the contrary implied or expressed elsewhere in any of the Contract Documents.

9. SUPERINTENDENCE

The Contractor shall give his personal superintendence to the work or have, at the site of the work at **ALL TIMES** a competent foreman, superintendent, or other representative who is satisfactory to the City and who has authority to act for the Contractor.

10. WORKMEN

The Contractor shall employ only competent, efficient workmen who are skilled in the work assigned to them and shall at all times enforce strict discipline and good order among his employees. Whenever the Engineer shall notify the Contractor, in writing, that in his opinion any man so employed is careless, incompetent, disorderly, or otherwise unsatisfactory, such man shall be relieved from the work and shall not again be employed thereon except with the written consent of the Engineer.

11. SUBCONTRACTING

The Contractor shall not subcontract any work to be performed or any materials to be furnished in the performance of this Contract without the written consent of the City. If the Contractor sublets any part of this Contract, he shall be as fully responsible to the City for the acts and omissions of his subcontractors, and of the

persons they directly or indirectly employ as he is responsible for the acts and omissions of his own employees.

12. **ENGINEER'S STATUS**

The Engineer shall have general supervision and direction of the work, and authority to stop such work whenever necessary to insure proper performance of this Contract. He shall also have authority to reject all work and materials which do not conform with the Contract, to direct the applications of forces to any portion of the work, as in his judgment is required, and to decide questions which arise in the course of such work.

13. **INSPECTORS' STATUS**

The City may appoint on-the-job inspectors who shall be under the direction of the Engineer. Such inspector will inform the Engineer as to the work progress, the manner in which it is being done, and the quality of materials being used. They will call the Contractor's attention to any observed failure to follow the plans and specifications. They shall have the authority to reject materials or workmanship which are defective and to suspend the work until any questions concerning compliance with the contract can be referred to and decided by the Engineer; **but they shall have no authority to direct the contractor's work or workmen, to supervise the Contractor's operation**, or to change the contract plans or specifications.

In no instance shall any action or omission on the part of an inspector release the Contractor from his responsibility to complete the work in accordance with the plans and specifications.

14. **INSPECTION**

The City and its representatives shall at all times have access to the work whenever it is in preparation or progress and the Contractor shall provide proper facilities for such access and for inspection.

The City shall have the right to reject materials and workmanship, which are defective, or to require their correction. Rejected workmanship shall be satisfactorily corrected, and rejected materials shall be promptly removed from the premises without charge to the City. If the Contractor does not correct such condemned work and remove rejected materials within a reasonable time, fixed by written notice, the City may remove them and charge the expense to the Contractor.

Should it be considered necessary or advisable by the City at the time before final acceptance of the entire work to make an examination of work already completed, by removing or tearing out same, the Contractor shall on request, promptly furnish any necessary facilities, labor and materials. If such work is found to be defective in any material respect, due to the fault of the Contractor, or his Subcontractors, he

shall defray all the expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the Contract, the actual cost of labor and material necessary involved in the examination and replacement, plus 15%, shall be allowed the Contractor.

15. PROTECTION OF WORK

The Contractor shall continuously maintain adequate protection of all his work from damage and shall protect the City's and adjacent property from injury arising in connection with this contract. The work under this Contract shall be at the risk of the Contractor in every respect until finished and accepted by the City. The Contractor shall furnish and maintain necessary passageways, guard fences, lights and such other facilities and means of protection as may be needed.

16. ACCIDENT PREVENTION

Precaution shall be observed at all times for the protection of persons including employees and property. The safety provisions of applicable laws, as well as building and construction codes, shall be observed. Machinery and equipment shall be guarded, and all hazards guarded or eliminated, in accordance with the safety provisions of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America, to the extent that such provisions are not in contravention of applicable laws.

During the course of construction, provisions must be made to maintain access for emergency vehicles at all times. One lane of the existing roads may be closed to traffic during the process of work but must be opened at the end of each working day. During the progress of the work, the Contractor shall accommodate vehicular and pedestrian traffic in the existing roads right-of-way. Contractor's equipment operations on public streets shall be governed by all local traffic ordinances and regulations of the Fire and Police Divisions and the Department of Public Services. The Contractor shall provide the required signs, barricades and flashing lights on the barricades as directed by the Engineer. All signs and barricades shall conform to the Michigan Manual of Uniform Traffic Control Devices and the Michigan Department of Transportation Standard Specifications for Construction. This shall include Type III barricades to close areas and Type II barricades to direct traffic and protect work and advance warning arrow panels to direct traffic as necessary. The Contractor shall attach and maintain two battery-operated amber flashers (Type A) to each advanced warning or detour sign. In case detours or other traffic instructions are necessary, suitable warning or direction devices shall be installed and maintained by the Contractor.

Should the Contractor fail to comply with any provision of this Contract, affecting the public welfare or safety, the City may, with or without notice, cause the necessary precaution to be taken, and deduct the cost of such work from any money due or to become due the Contractor under this Contract, but the performance of such work by the City, or at its direction, shall not release the Contractor from his general or particular liability for the safety of persons or property.

17. WORKING SPACE

The Contractor shall confine his equipment, apparatus, materials storage and operations to limits indicated by applicable laws, permits or directions of the City and shall not necessarily encumber the premises with his materials.

Should the Contractor require space on privately owned property; he shall obtain such space at his own expense by agreement with the owner thereof. The City will require a copy of a signed waiver from property owner for use of the privately owned site.

18. USE OF THE SITE

In his operations the Contractor shall interfere as little as possible with traffic and shall in no case unduly obstruct traveled ways.

The Contractor shall at no time interfere with surface or underground drainage. Free access shall be provided at all times to hydrants and water and gas valves.

The Contractor shall enforce the City's instructions regarding signs, advertisements, fires and smoke.

19. ORDER OF COMPLETION – USE OF COMPLETED PORTION

The Contractor shall cooperate with the City, when reasonably possible, to complete any portion or portions of the work in such order of time as will be beneficial to the City without prejudice to the Contractor's interests. Use of a completed portion of the work by the City shall not be deemed as acceptance of the work so used or any part thereof.

20. PERMITS, SURVEYS AND COMPLIANCE WITH LAWS

The Contractor shall secure and pay for all permits, fees and licenses (including such fees that may be assigned to the City of Livonia as permit holder) necessary for performance of the work unless otherwise specifically provided in the Contract Documents.

The City shall furnish all surveys unless otherwise provided in like manner.

The Contractor shall give all notices, pay all fees, and comply with all applicable laws, as well as rules and regulations bearing on the conduct of the work.

21. LAYING OUT WORK

Principal reference lines or points and benchmarks shall be given by the Engineer when he deems necessary; or he shall be given twenty-four (24) hour advance notice if the Contractor requires such information.

The Engineer will set suitable stakes and marks showing the locations and elevations of the various parts of the work and will furnish the Contractor with cut sheets referring to the reference points. No work shall be undertaken until such stakes and marks have been set. The Contractor shall assure that the work at all times proceeds in accordance with the stakes and marks and shall provide all labor and materials to set required batter boards and, or laser devices and locate the work accurately with respect to the reference points. The Engineer will place grade stakes at the Contractor's desired offset. Once these stakes are placed, any necessary transfer of grade and/or offset will be the responsibility of the Contractor.

The Contractor shall carefully preserve reference points and stakes and in case of willful or careless destruction thereof, he will be charged for re-staking at the rate of \$100.00 per hour. There will be a one-hour minimum per request and the standard 24-hour notice is required. In addition, the Contractor shall be responsible for any errors that may be caused by their loss or disturbance.

22. SURVEY MONUMENTS

The Contractor shall protect and preserve all land survey monuments or property corners along the line of his work. Where monuments or irons are unavoidably disturbed or removed due to operations under this Contract, the Contractor, at his own expense, shall employ the services of a registered land surveyor to establish, reset or replace such monuments or irons.

23. SANITARY REGULATIONS

Necessary sanitary conveniences for the use of laborers on the work, properly secluded from public observation, shall be constructed and maintained in sanitary condition by the Contractor, and their use shall be strictly regulated.

24. REPORT OF ERRORS AND DISCREPANCIES

If, in the course of the work, the Contractor finds any discrepancies between the plans and the physical conditions encountered, or any errors or omissions in the plans or layout, it shall be his duty to immediately inform the Engineer in writing. Any work done after such discovery, until authorized by the Engineer, will be at the Contractor's risk.

25. ESTIMATED QUANTITIES

The quantities of the various classes of work to be done and materials to be furnished under this Contract, which have been estimated as stated elsewhere herein, are approximate and only for the purpose of comparing, on a uniform basis, the bids offered for the work under this Contract; and neither the City nor its agents are to be held responsible should any of the estimated quantities be found incorrect during the performance of the work; and the Contractor shall make no claim for anticipated profit, nor for loss of profit, because of a difference between the quantities of the various classes of work actually done or materials actually delivered, and the estimated quantities as herein stated.

26. CONTRACTOR'S AND SUBCONTRACTOR'S INSURANCE

The Contractor shall not commence work under this Contract until he has obtained the insurance required under this paragraph, nor shall the Contractor permit any Subcontractor to commence work on his Subcontract until he has obtained the insurance herein required.

- a. **Workmen's Compensation Insurance.** The Contractor shall procure and maintain during the life of this Contract, Workmen's Compensation Insurance for all of his employees who engage in the work to be performed; and, in case any such work is sublet, the Contractor shall require the Subcontractor to provide similar insurance for all of the latter's employees who engage in the work.
- b. **Contractor's Public Liability and Property Damage Insurance.** The Contractor shall procure and maintain during the life of this Contract, Contractor's Public Liability and Property Damage Insurance in the amount of not less than \$1,000,000.00 for injuries, including accidental death, to each person; and, subject to the same limit for each person, in the amount of not less than \$1,000,000.00 on account of each accident; and, in an amount not less than \$1,000,000.00, each accident, for damage to property.
- c. **Owner's and Contractor's Protective Public Liability and Property Damage Insurance.** The Contractor shall procure and maintain during the life of this Contract, Owner's and Contractor's Protective Public Liability and Property Damage Insurance, in the name of the City, in an amount not less than \$1,000,000.00 for injuries, including accidental death, to each person; and, subject to the same limit for each person, in an amount not less than \$1,000,000.00 on account of each accident; and in an amount not less than \$1,000,000.00, each accident, for damage to property. Such insurance shall include motor vehicle exposure and specific coverage by endorsement, which shall be described in the following manner:

"It is hereby understood and agreed that such insurance as is afforded shall include specific coverage for the so-called Explosion, Collapse and Underground Hazards, which covers damage to property arising directly or indirectly from explosion, damage or structural injury to buildings or adjacent structures arising from operations under this Contract, including excavation or tunneling and damage sustained by wires, conduits, mains, sewers, and the like, occasioned by the Contractor's sub-surface operations."
- d. **Subcontractor's Public Liability and Property Damage Insurance.** The Contractor shall require each of his Subcontractors to procure and maintain during the life of their subcontract, Subcontractor's Public Liability and Property Damage Insurance in an amount not less than \$1,000,000.00 for injuries, including accidental death, to each person; and, subject to the same limit for each person, in an amount not less than \$1,000,000.00 on account of each accident; and in an amount not less than \$1,000,000.00, each accident, for damage to property.

The Contractor shall require each of his Subcontractors to procure and maintain during the life of their subcontract, Owner's and Contractor's Protective Public Liability and Property Damage Insurance in an amount not less than \$1,000,000.00 for injuries, including accidental death, to each person; and, subject to the same limit for each person, in an amount not less than \$1,000,000.00 on account of each accident; and in an amount not less than \$1,000,000.00, each accident, for damage to property.

e. Contractor's Motor Vehicle Bodily Injury and Property Damage Insurance.

- (1) The Contractor shall procure and maintain during the life of this Contract, Motor Vehicle Bodily Injury Insurance (Comprehensive Form) in an amount not less than \$1,000,000.00 for injuries, including accidental death, to each person; and, subject to the same limit for each person, in an amount not less than \$1,000,000.00 on account of each accident; and in an amount not less than \$1,000,000.00, each accident for damage to property.
- (2) The Contractor shall procure and maintain during the life of this Contract, Hired and Non-Ownership Motor Vehicle Bodily Injury and Property Damage Insurance in an amount not less than \$1,000,000.00 for injuries, including accidental death, to each person; and, subject to the same limit for each person, in an amount not less than \$1,000,000.00 for each accident; and in an amount not less than \$1,000,000.00, each accident, for damage to property.

27. PROOF OF INSURANCE – FORM 1304-A City of Livonia Projects

The City shall be an additional insured party under the Contractor's General Commercial insurance policy. The Contractor shall provide the City, at the time this Contract is returned by him for execution, the certificates and policy listed below. The City's additional insured status and a guarantee that thirty (30) days notice will be given to the City prior to cancellation of, or change in, any insurance coverage shall be endorsed on each certificate and policy:

1. Four (4) copies of Certificate of Coverage of Contractor's Workmen's Compensation Insurance.
2. Four (4) copies of Certificate of Coverage of Contractor's Public Liability and Property Damage Insurance.
3. Four (4) copies of Certificate of Coverage of Contractor's Motor Vehicle Bodily Injury and Property Damage Insurance covering owned, hired, and non-owned vehicles.
4. Four (4) copies of Owner's and Contractor's Protective Public Liability and Property Damage Insurance Policy.

28. PERFORMANCE BOND

The Contractor, within 15 days from the date of acceptance of his proposal, shall execute in favor of the City a Surety Bond Form in an amount at least equal to 100% of the contract price from an "A" rating or better company, as security for the faithful performance of this Contract.

29. LABOR AND MATERIALS BOND

The Contractor, within 15 days from the date of acceptance of his proposal, shall execute in favor of the City a Surety Bond Form in an amount at least equal to 100% of the contract price, as security for the payment of all persons performing labor and furnishing materials in connection with this Contract.

30. MAINTENANCE AND GUARANTEE BOND

The Contractor, as a condition precedent to final payment, shall execute in favor of the City a Maintenance and Guarantee Bond Form in an amount at least equal to 100% of the contract price. The guarantee shall cover all work performed and materials furnished under this Contract for a period of one (1) year subsequent to the date of the final estimate.

31. FORFEITURE OF CONTRACT

If the work to be done under the Contract shall be abandoned by the Contractor, or, if at any time in the judgment of the City, the Contractor shall fail to perform the work at a reasonable rate of progress, or to comply with all or any of the terms and requirements herein set forth, then the City shall have the right for take possession of the work, including Contractor's plans, supplies, and materials, at any time after having notified the Contractor in writing to discontinue the work under this Contract for said cause or causes, and such action shall not affect the right of the City to recover damaged resulting from such abandonment or failure to perform. Upon receiving such notice, the Contractor shall, upon demand, immediately give the City safe and peaceable possession of the work, including the plans, and shall then cease to have control over any portion thereof or the men employed thereon.

The City may then proceed to complete the work herein specified, by Contract or otherwise, and the entire cost incurred shall be charged to the Contractor and deducted from any sum or sums due or to become due under the Contract; the excess cost, if any, shall be paid to the City by the Contractor or his sureties.

32. DEFINITION OF NOTICE

Where the Contract Documents provide for the giving of any notice, it shall be deemed to have been given: (a) as to the City, when written notice shall have been delivered to the Engineer or the City Clerk, or shall have been placed in the United States mail, addressed to the City Clerk at the place where the bids and proposals for the Contract were opened; (b) as to the Contractor, when written

notice shall have been delivered to his chief representative then present at the site of the work, or shall have been placed in the United States mail, addressed to the Contractor at his permanent place of business, as stated in the papers prepared by him to accompany his proposal; and (c) as to the Surety on a performance bond or labor and materials bond, when a written notice shall have been placed in the United States mail, addressed to the Surety at his home office or to the agents who executed such performance bond or labor and materials bond on the Surety's behalf.

33. ADDITIONAL OR OMITTED WORK - PAYMENT

The City may authorize changes in, additions to or deductions from the work to be performed or the materials to be furnished pursuant to the provision of this Contract.

Adjustments, if any, in the amounts to be paid to the Contractor by reason of any such change, addition or deduction shall be determined by one or more of the following methods:

- (a) By unit prices contained in the Contractor's original bid and incorporated in the construction contract.
- (b) By a supplemental schedule of prices contained in the Contractor's original bid and incorporated in the construction contract.
- (c) By an acceptable lump sum proposal from the Contractor.
- (d) On a force account basis in accordance with procedures set forth in Paragraph No. 41 of these General Conditions.

34. DEDUCTION FOR UNCORRECTED WORK

If the City deems it expedient to accept work, which has been damaged or not done in accordance with the Contract, an equitable adjustment will be made so as to deduct from the contract price the cost of repairing or properly performing such work.

35. TIME LIMIT OF CONTRACT

The parties hereto distinctly understand and agree that the time specified for completion of the work is the essence of this Contract, and that the Contractor shall not be entitled to claim performance of this agreement unless the work is satisfactorily completed, in every respect, within the time herein specified.

36. EXTENSION OF TIME

An extension of time may be granted by the City in the event of the work being delayed, beyond the prescribed time for completion, by carriers, the elements, general strikes, accidents or other causes not under the Contractor's reasonable

control. Such an extension of time shall be deemed to be in full compensation for any loss or injury sustained by the Contractor by reason of delays caused as Aforesaid, and the Contract shall not thereby be invalidated in any respect.

37. ESTIMATES AND PAYMENTS

The City shall pay to the Contractor amounts bid in the proposal, or as modified by subsequent agreement, less deduction for any unsatisfactory or uncompleted work, based upon measurements made by the Engineer or as otherwise herein stipulated, and such measurement shall be final and conclusive.

A. BI-WEEKLY PROGRESS PAYMENT

Payments based on progress estimates will be made bi-weekly for ninety percent (90%) of the work completed until fifty percent (50%) completion less any deductions or reservations which may be made in accordance with the terms of this Contract provided that the work is progressing satisfactorily, all orders of the Engineer have been complied with, and the time of completion shall not have expired. No allowance will be made for materials furnished which have not been incorporated in the completed work unless otherwise stated on the Contract Documents. All retained funds will be separately held in interest bearing accounts and disbursed to the Contractor in accordance with Public Act No. 524, 1980.

The Contractor shall submit to the City an application for each payment and shall submit a Contractor's Declaration stating that he has not performed any work, furnished any material, sustained any loss, damage or delay, for any reasons, including soil conditions encountered or created, or otherwise done anything for which he will ask, demand, sue for, or claim compensation from the City and, if required, shall submit receipts or other vouchers showing his payments for materials and labor, including payments to subcontractors. (Forms included in Contract Documents)

The City may withhold payment of any progress estimate, or portion thereof, until the Contractor shall have furnished satisfactory evidence that he has paid all claims of every nature.

No payment shall be considered as acceptance of work completed, or any portion thereof, prior to compensation of all work required by this Contract and payment of the final estimate.

B. FINAL PAYMENT

Within thirty (30) days after completion of all work required by this Contract to the satisfaction of the City and the Engineer, in accordance with all and singular terms and stipulations herein contained, the City shall make final payment, based upon a final estimate made by the Engineer. Before such payment is made, the Contractor shall, as directed by the City, execute a Contractor's Affidavit that he has paid all claims of every nature, or secured a

release from the surety or sureties approving payment. The final payment shall be considered as full approval and acceptance of the completed work herein specified.

Acceptance by the Contractor of the final payment aforesaid shall operate as, and shall be, a release of the City and its agents, from all claims by liability to the Contractor for anything done, furnished for, or relating to the work, as well as act or neglect of the City or of any person relating to or affecting the work.

38. FAIR EMPLOYMENT PRACTICES ACT

- (a) The Contractor agrees that neither he nor his subcontractors will discriminate against any employee or applicant for employment, to be employed in the performance of this Contract, with respect to his hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of his race, color, religion, national history or ancestry.
- (b) The Contractor agrees that neither he nor his subcontractors will discriminate against any employee or applicant for employment, to be employed in the performance of his contract, with respect to his hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of his age or sex, except where based on a bona fide occupational qualification.
- (c) Breach of the covenants contained in either of the foregoing paragraphs may be regarded as a material breach of this Contract and may result in its cancellation, termination or suspension in whole or in part and in the Contractor being declared ineligible to contract in the future with the City of Livonia.

39. LIQUIDATED DAMAGES

The Contractor guarantees that he can and will complete the work within the time limit stated in the Contract Documents, or within the time as extended as provided elsewhere in the Contract Documents. Inasmuch as the damage and loss to the City which will result from the failure of the Contractor to complete the work within the stipulated time will be most difficult or impossible, of accurate determination, it is mutually agreed that the damages to the City for such delay and failure on the part of the Contractor shall be liquidated in the amount stated in the Form of Proposal, for each and every calendar day by which the Contractor shall fail to complete the work or any part thereof within the provisions hereof, and such liquidated damages shall not be considered as a penalty.

The City will deduct and retain out of any money due or to become due hereunder the amount of the liquidated damages, and in case those amounts are less than the amount of liquidated damages, the Contractor shall pay the difference upon demand of the City.

**40. INSPECTOR DAYS (APPLICABLE IF SPECIFIED AS AN ITEM IN THE FORM
OF PROPOSAL)**

It shall be the responsibility of the bidder to include as a bid item in his proposal the number of inspection days he estimates will be required to complete this project. An inspector day shall be determined from the tabulation listed below for the time each inspector spends on the project. An inspector will be assigned to each work until carrying out separate operations needed to complete this project. This will be for, but not limited to, operations such as, while materials are being installed, during excavation and back-filling operations, all pressure tests, infiltration tests, T.V. inspection, placing concrete or asphalt paving, restoration operations, final inspection of the completed work or the checking of complaints on the project.

Delays in the progress of the work under the contract because of the Contractor's failure to diligently pursue his work will not eliminate an inspection fee being charges against the Contractor. Inspection time may be charged to the Contract for each day for the availability of an inspector on the project. This time may be charged against a Contractor until such time as the Contractor is ready for final payment. Charges for each inspector assigned to the project shall be made in accordance with the following schedule:

	Inspector Hours <u>Chargeable</u>
1. For any working day of less than four (4) hours	4
2. For a working day Monday through Friday inclusive of more than four (4) but less than eight (8) hours	8
3. For each working hour of fraction thereof in excess of eight (8) hours Monday through Friday inclusive and each working hour of fraction thereof on Saturday	1.25
4. For each working hour or fraction thereof on Sunday	1.50

An inspector day shall then be computed by adding the above listed total chargeable hours and dividing such total number of chargeable hours by eight (8).

When the Contractor elects not to work, the minimum show-up time for each inspector on the project shall be four (4) hours. No show-up time will be included when the Contractor gives the project engineer at least 24 hours notice of his intent not to work. The Contractor shall give the Engineer at least 48 hours notice before beginning each operation such as installing materials or restoration operations.

Provisions have been made on the itemized price schedule for the insertion of the number of inspector days anticipated for completion of the project. The Contractor shall insert the number of inspector days, multiply by Two Hundred Dollars (\$200.00) per day and insert the total in the space provided. This total is a lump sum amount, which will be credited to the Contractor. The number of inspector days each month will be computed and the cost deducted from this credit amount. Should the credited amount become depleted, the cost of inspector days will

continue to be deducted from the monthly payments to the Contractor. Upon completion of this project, any surplus remaining in the inspector day lump sum bid will be given to the Contractor.

The number of inspection days stated in the proposal will not be changed except by the authorized Change Order(s). An extension of time, if granted will not automatically constitute additional inspection days under the Contract.

41. FORCE ACCOUNT BASIS

When work performed is to be paid for on a force account basis, the method of construction, type and amount of equipment to be used shall be submitted and approved by the Engineer, prior to proceeding with the work. The Contractor shall furnish to the Engineer itemized reports of the costs of all force account work. The reports shall be furnished each week and shall include certification of the payroll involved in the work. The bills shall show credits for any discounts offered by suppliers and only the net amount of the bill shall be charged to the force account work.

A. STATEMENTS

The Contractor and the Engineer shall compare records of force account work and bring them into agreement at the end of each day. From the weekly reports received from the Contractor, the Engineer will prepare, on regulation forms, itemized statements containing the following detailed information:

Name, class, dates, number of hour worked each day, total hours, rate and extension (rate multiplied by hours worked) for each employee and foreman engaged.

Equipment description, number of actual hours operated each day, total hours, rental rate, and extension (rate multiplied by hours operated) for each unit of equipment engaged. The Contractor's weekly report should fully describe each unit of equipment (rating, type of engine, optional equipment, type of blade, size of bucket, etc.)

Quantities of material used, unit prices, and total cost (extensions).

Freight on materials.

The compensation as herein provided shall be accepted by the Contractor as payment in full for all labor, including fringe benefits as hereinafter set forth, equipment and materials used for force account work, and the amount so paid shall cover profit, superintendence, general expense, overhead, and the use of small tools and equipment for which no rental is allowed. General Foreman and Superintendents shall be classified as management, and shall not be considered as a separate cost item for force account purposes.

B. LABOR

For all labor and foreman in direct charge of the specific work, the Contractor shall receive the actual rate of wage paid for each and every hour that said labor and foreman are actually engaged in such work, plus twenty percent (20%) of the sum, plus any additions as hereinafter provided.

C. BOND. INSURANCE. TAX

The force account percentage for labor and wage rates paid by the Contractor to its employees, shall cover any possible costs for bond premiums, workmen's compensation insurance, personal injury public liability and property damage public liability insurance, unemployment compensation, and federal social security levied against the Contractor will be paid at cost. The Contractor shall furnish satisfactory evidence of the amounts paid for each of these required costs as related to force account work. An amount equal to ten percent (10%) will be added to these costs.

D. MATERIALS

For materials and supplies furnished by the Contractor, and used in the specific work, the Contractor will be paid the actual cost of such materials used in the work, including freight charges, verified by original receipted bills, plus fifteen percent (15%) of the sum thereof.

Where materials used are not specifically purchased for use on this work but are taken from the Contractor's stock, the Contractor shall submit a certification of the quantity, price and freight on such materials in lieu of original receipted bills and invoices.

The City will pay sales and/or use tax as required by law on any material that is incorporated into the end product.

E. MACHINERY AND EQUIPMENT

For any Contractor-owned machinery and equipment including the foreman's transportation unit, which is determined to be necessary to use on work done by force account, the Contractor will be paid rental rates as follows:

1. The rate for each piece of Contractor owned equipment used, including appurtenances and attachments to equipment, will be determined by using the *Rental Rate Blue Book for Construction Equipment*, Volume 1, 2, or 3, by Equipment Watch, Inc. (Blue Book). The edition that is current at the time the force account work is started will apply. The base hourly rate will be equal to

the published monthly rental rate divided by 176, modified by the rate adjustment factor and the applicable map adjustment factor, plus the "estimated operating cost per hour."

2. For equipment not listed in the Blue Book, the rate will be determined by using the published rental rate listed for a similar piece of equipment giving proper consideration to the capacity, size, horsepower, and age of the equipment. For equipment for which there is no comparable in the Blue Book, the monthly rate shall be reasonable but not more than five percent of the invoiced cost of the equipment. The base hourly rate shall then be determined by dividing the monthly rate by 176. Rates shall be agreed upon in writing before the equipment is used.
3. No payment will be allowed for small hand and power tools that are not listed in the Blue Book. Small hand and power tools listed in the Blue Book at a rate of less than \$1.00 per hour will be considered as part of overhead and will not be paid for separately.
4. The rates used for Contractor owned trucks used to haul material will be those published by the Michigan Department of Transportation. The rates will be reviewed and adjusted periodically. Separate payment for the driver will be allowed as described under labor. The rate for the foreman's transportation unit will be \$7.00 per hour.
5. The minimum time per day for equipment used productively in force account work will be two hours. For equipment which is required intermittently, the time will be determined in two-hour intervals after the equipment is first needed and put into use in the performance of the force account work. The rate for each two-hour interval will be full rate or stand by rate according to Idle Equipment Section G, depending upon the productive use or non-use of the equipment during each two-hour interval.
6. Travel time to the location of the force account work will be included when the equipment is moved under its own power. When equipment is moved from one site to another by means other than its own power, the actual operating time during periods of loading and unloading equipment will be paid for at the established rate and transportation costs will be allowed.

Transportation charges for each piece of equipment to and from the work site will be paid provided:

- Equipment is obtained from the nearest available source
- Return charges do not exceed the delivery charges; and
- Charges are restricted to those units of equipment not already available and not on or near the project.

F. NON-CONTRACTOR OWNED EQUIPMENT

If the Contractor is required to rent a specific type of equipment, the Contractor shall inform the Engineer of the need to rent the equipment and of the rental rate for that equipment before using it on the work site. The Contractor will be paid the actual rental for the equipment for the time that the equipment is used to accomplish the work, plus the cost of moving the equipment onto and away from the job, provided the total rental rate does not exceed the rental rate established by the Blue Book plus operating costs. The Contractor shall provide a copy of invoices for all rental expenses incurred.

STANDBY RATE AND ALLOWABLE HOURS

For Contractor owned equipment the standby rate will be one-half the rate established in Machinery and Equipment Section E. No payment will be allowed for operating costs. The standby rate will only be allowed if both of the following conditions are met:

1. The Engineer specifically required the equipment to remain on the site for later use on the force account activity; and
2. Work is being performed on the force account activity when the equipment is idle.

Payments for standby time will not be made on any day the equipment operates for eight or more hours. For equipment accumulating less than eight hours operating time on any normal work day, standby payment will be limited to only that number of hours that, when added to the operating time for that day, equals eight hours.

G. MISCELLANEOUS

No additional allowance will be made for general superintendence or other costs for which no specific allowance is provided.

H. SUBCONTRACTING OR HIRING SERVICES BY OTHERS

For administration costs in connection with approved subcontract work or hiring services by others to perform specialized type of work which the Contractor is not qualified to do, the Contractor shall receive an amount equal to five percent (5%) of the total cost of the work computed as set forth above. Prior approval of the Engineer is required.

The Contractor, while performing force account work at the request of the City, is operating within the framework of the entire contract and is subject to all the provisions herein.

42. FIELD OFFICE

When provided in the Instruction to Bidders, the Contractor shall furnish and maintain, for the exclusive use of the Engineer, an approved weather-proof

building as a field office, for all construction projects. The building shall be located as approved by the Engineer, in full view of the work and with at least one window facing construction operations.

The building shall have a tight board floor and the floor space shall not be less than 160 square feet and the ceiling not less than eight (8) feet in height, and shall be provided with the following:

- a. Heating and air conditioning equipment that will maintain a temperature between 70° F and 80° F during working hours.
- b. At least two wall-mounted electrical power outlets per room that conform to local electric codes for office use.
- c. Not less than two 75-watt electric lights per room.
- d. Water and telephone service.
- e. A standard sized door.
- f. A minimum floor to ceiling height of 8 feet.
- g. A wooden locker for the storing of implements and testing equipment.
- h. A minimum of 6 feet of rigidly constructed 30-inch wide counter.
- i. At least three single sash windows with at least one sash, hinged or sliding window per room.
- j. Locks, bars, window locks, or a security system.
- k. Bottled water for drinking.
- l. First aid kits, smoke detectors, and fire extinguishers required by local fire and safety authorities. Maintain fire extinguishers and smoke detectors.

The Contractor shall provide, at a location near the field office, a sanitary facility. The construction, regular maintenance and final removal of the facility shall be in accordance with local restrictions and shall be incidental to the construction of the project.

A trailer having equal facilities and floor space may be used in place of above described field office if so desired.

The cost and maintenance of the above described facilities will not be paid for separately but shall be included in the price bid for various items of work under the contract. The building shall be removed by the Contractor upon completion of the Contract and shall become his property.

Rev. 03/2
SPECIFICATIONS – GENERAL

<u>SECTION</u>	<u>TOPIC</u>
1.	MATERIALS AND WORKMANSHIP
2.	DEWATERING
3.	SHEETING, SHORING AND BRACING
4.	TUNNELING
5.	EXISTING STRUCTURES AND UTILITIES
6.	ROADWAY, WALKWAYS AND POURUS BACKFILL
7.	ROAD DETOURS
8.	DUST CONTROL
9.	PRESERVATION OF TREES
10.	SEEDING AND SODDING
11.	FINAL CLEAN – UP

SPECIFICATIONS GENERAL

1. MATERIALS AND WORKMANSHIP

Unless otherwise stipulated in the specifications, all equipment, materials, and articles incorporated in the work covered by this contract are to be new and of the best grade of their respective kinds for their purpose.

If not otherwise provided, material or work called for in this contract shall be furnished and preformed in accordance with well-known established practice and standards recognized by Architects, Engineers and the trade.

When required by the specifications, or when called for by the City, the contractor shall furnish the City for approval, full information concerning the materials or articles, which he contemplates incorporating in the work. Samples of materials shall be submitted for approval when so directed. Machinery, equipment, materials, and articles installed or used without such approval shall be at the risk of subsequent rejection.

2. DEWATERING

The Contractor shall provide and maintain adequate pumping and drainage facilities for the removal and disposal of water from trenches or other excavations.

Where the work is in ground containing an excessive amount of water, the contractor shall provide, install, maintain and operate suitable well points, connecting manifolds and reliable pumping equipment to operate same and to insure proper construction of the work.

Drainage or discharge lines shall be connected to adjacent public storm water drains or extended to nearby watercourses wherever possible. All pumping and drainage shall be done without damage to any roadway or other property, public or private, and without interference with the rights of the public or private property owners.

The cost for dewatering shall be included in the unit prices bid for sewer construction.

“SEE ALSO DEWATERING SPECIFICATIONS” if included with these specifications.

3. SHEETING, SHORING AND BRACING

Where necessary in order to construct the work called for by the contract, to insure the safety of the men, or to protect other things of value, the contractor shall use and, if necessary, leave in place, such sheeting shoring and bracing as is needed

to carry out the work or to adequately insure the stability of such work, to insure the safety of the men and/or to protect adjoining things of value. The Contractor will receive no extra compensation for sheeting, shoring, or bracing, whether removed or left in place.

4. TUNNELING

Tunnel work shall be constructed in accordance with the Engineer's specifications, "Road Permit" requirements or as otherwise noted on the drawings. The cost of tunneling shall be included in the unit prices unless listed as a separate item in the proposal.

Excavated tunnels shall be braced as necessary. Pipe shall be carefully set to line and grade. Voids shall be filled with a sand cement mixture consisting of three (3) bags of yellow sand thoroughly rammed into place except in cases where a permit requires a different backfill in which case such shall be used.

5. EXISTING STRUCTURES AND UTILITIES

Certain underground structures and utilities have been shown as an aid to the Contractor, but the City does not guarantee their location or that other underground structures or utilities may not be encountered.

Where utilities are encountered along the line of work, the Contractor shall perform his work in such a manner that utility service will not be interrupted and shall make all temporary provisions to maintain said service.

At any time when construction operations under this contract endangered conduits or structures of any public utility, the contractor shall notify the utility owner and shall take such steps as may be required to protect said conduit or structure from damage.

Unless otherwise indicated in the contract documents, the Contractor shall replace any disturbed utility and reconstruct same on the original line and grade or, if necessary, at a new line and grade or, if necessary, at a new line and grade to be established by the engineer. Any damaged material shall be replaced with new material of the same quality as that replaced and all construction shall be in conformance with the requirements of the utility owner.

Where it is necessary that utility poles be moved to a new location or moved temporarily and replaced after construction, the Contractor shall arrange for the moving of such poles and the lines thereof.

Where it is the policy of any utility owner to make his own repairs or relocations, the contractor shall cooperate to the fullest extent with the utility.

Unless otherwise provided for in the proposal, the Contractor will receive no extra compensation for the relocation, replacement, maintenance of service or protection of any utilities encountered whether such utilities are shown on the contract drawings or not.

In all cases where permits, inspection fees or any changes are required by utilities, the Contractor shall secure all such permits and pay all fees and charges.

6. ROADWAYS, WALKWAYS AND POUROUS BACKFILL

Before roadways, sidewalks or other structures are disturbed, the Contractor shall make an examination of existing structures, which may be disturbed, and careful notes shall be made of the condition of such structures and filed with the Engineer.

Where open cut construction crosses existing improved roadways or walkways, where the trench parallels an existing improved roadway or walkway which is disturbed by the contractor's operation or where called for on the contract drawings, the Contractor shall backfill the trench with Michigan Department of Transportation Class II porous backfill. The backfill shall be placed in twelve-inch (12") layers and shall be consolidated to maximum density by means of approved vibratory type compaction equipment. The porous material shall extend eight feet (8') beyond each side of the edge of the existing roadway or one foot (1') each side of the existing walkway at the ground level and shall slope at 45 degrees down the trench to the bottom of the trench and shall be placed prior to ordinary backfill.

A temporary fill at least eight inch (8") thick shall be placed over the porous backfill to the width of the original roadway or walkway and shall be maintained in good condition with additional gravel as settling occurs until such time as permanent repairs or replacement of the original structures have been made.

All structures including fences, curbing, walks, paving, road bases, road surfaces, etc. damaged or destroyed due to the Contractor's operation shall be repaired or replaced by him to at least as good condition as existed prior to the beginning of the work or to such condition as will meet with the full approval of the authority having jurisdiction. Where pavements or walkways must be cut, they shall be removed to the closest joint or shall be saw cut to provide a straight, neat joint as directed by the engineer.

Unless otherwise provided for in the proposal, the Contractor will receive no extra compensation for porous backfill, for temporary surfaces or for repair or replacement of any structures damaged or destroyed by his operations. All such costs shall be considered as incidental to the work and included in the unit prices.

7. ROAD DETOURS

The Contractor, at his own expense shall provide and maintain all temporary roadways as required due to his operations or as required under "Road Permits".

Temporary roads shall be constructed of six inches (6") of compacted 21 AA Limestone or 21A Road Gravel meeting Michigan Department of Transportation Specifications.

8. DUST CONTROL

During the construction of any project, adequate dust control measures shall be maintained by the Contractor so as not to cause detriment to the safety, health, welfare, or comfort of any person or cause damage to property or business. If not shown as a pay item, dust control will be at the Contractor's expense.

9. PRESERVATION OF TREES

The contractor shall protect and preserve all trees along the line of work, and he will be held responsible for any damage to trees. Where necessary to preserve a tree and its main roots, the Contractor shall tunnel under such tree. Where specifically called for on the drawings, the contractor shall remove trees completely, including stumps and main roots.

Where tunneling is not required for trees close to the trench and root trimming is necessary, the Contractor shall hand trench ahead of the machine digging and cut all roots cleanly to minimize damage to the roots.

The Contractor shall protect and/or replace all shrubbery damaged or destroyed by operations under this contract.

Unless provided for otherwise in the Form of Proposal, the contractor will receive no extra compensation for preservation of trees or for their removal where called for, or for the protection or replacement of shrubbery, and the cost of all work involved shall be included in the unit price bid.

10. SEEDING AND SODDING

Where established grass areas are disturbed by the Contractor's operation, he shall provide unless otherwise specified, not less than 3" of approved topsoil and shall grade and seed with Michigan Department of Transportation Class "A" seeding, mulch and fertilizer all in accordance with section 816 and 917 of the 2003 Michigan Department of Transportation Standard Specifications. All work shall be done in an approved manner and seed shall be covered by light raking or dragging and then rolled with a light roller.

Where established lawn areas are disturbed by the Contractor's operations, he shall provide, unless otherwise specified, not less than one inch (1") of approved topsoil and shall grade, sod with approved first quality Kentucky Blue Grass, consisting of weed free turf freshly cut from an established nursery, and fertilized with a 10-6-4 commercial type fertilizer at the rate of 200 pounds per acre.

All work shall be done in accordance with Section 816 and 917 of the 2003 Michigan Department of Transportation Standard Specifications.

Unless otherwise called for in the proposal, the contractor shall receive no extra compensation for seeding or sodding. All such costs shall be considered incidental to the work and included in the unit prices.

11. FINAL CLEAN-UP

Before work shall be considered ready for final inspection, the Contractor shall remove and properly dispose of all equipment, waste materials and excess excavation from the lines of the work, shall grade all trenches, and do any other necessary work to leave the premises in a workmanlike condition at least as good as existed before work has started.

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that we _____

_____ as Principal and

_____ as Surety or Sureties, are held and firmly bound unto the CITY OF LIVONIA, Wayne County, Michigan, in the sum of _____

_____ Dollars (\$ _____), for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

THE CONDITION of the foregoing obligation is such that, whereas the said _____

_____ did on the _____ day of _____, 20____, by articles of that date, enter into a Contract with the said CITY OF LIVONIA for the construction of _____ project.

NOW THEREFORE, if the said _____

shall well and faithfully do and perform all things agreed to be done and performed by said Contract, according to the terms thereof, then this obligation shall be void, but otherwise, it shall remain in full force and effect.

PROVIDED, that any alterations which may be made in the terms of the Contract or in the work to be done under it, or the granting by the said CITY OF LIVONIA of any extension of time for the performance of the Contract or any other forbearance on either the part of said CITY OF LIVONIA or the Principal, to the other, shall not in any way release the Principal and Surety or Sureties, or either, or any of them, their heirs, executors, administrators, successors, or assigns, from their liability hereunder, notice to the Surety or Sureties of any such alteration, extension of forbearance being hereby waived.

WITNESS, our hands and seals, this _____ day of _____, 20____

Signed, sealed and delivered in the _____

Presence of: _____ By _____

LABOR AND MATERIALS BOND

KNOW ALL MEN BY THESE PRESENTS, that we _____

_____ as Principal and

as Surety or Sureties, are held and firmly bound unto the CITY OF LIVONIA, Wayne County,
Michigan, in the sum of _____

_____ Dollars (\$_____), for the payment of which,
well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors,
administrators, successors and assigns.

THE CONDITION of the foregoing obligation is such that, whereas the said _____

_____ did on the _____ day of _____, 20_____, by articles of that date, enter into a

Contract with the said CITY OF LIVONIA for the construction of _____

Project and the payment for all labor and materials used therein.

NOW THEREFORE, if the said _____

shall pay for all labor and materials used in the fulfillment of said Contract, and shall pay for
subcontractors doing work thereon, and shall indemnify and save harmless the said CITY OF
LIVONIA from and against all damages by reason of liens for labor or materials furnished thereof,
then this obligation shall be void, but otherwise it shall remain in full force and effect.

PROVIDED, that any alterations which may be made in the terms of the Contract or in the work to
be done under it, or the granting by the said CITY OF LIVONIA of any extension of time for the
performance of the Contract or any other forbearance on either the part of said CITY OF LIVONIA
or the Principal, to the other, shall not in any way release the Principal and Surety or Sureties, or
either, or any of them, their heirs, executors, administrators, successors, or assigns, from their
liability hereunder, notice to the Surety or Sureties of any such alteration, extension of
forbearance being hereby waived.

WITNESS, our hands and seals, this _____ day of _____, 20_____

Signed, sealed and delivered in the _____

Presence of: _____ By _____

MAINTENANCE AND GUARANTEE BOND

KNOW ALL MEN BY THESE PRESENTS, that we _____
_____ as Principal and

_____ as Surety or Sureties, are held and firmly bound unto the CITY OF LIVONIA, Wayne County,
Michigan, in the sum of _____
_____ Dollars (\$ _____), for the payment of which,
well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors,
administrators, successors and assigns.

THE CONDITION of the foregoing obligation is such that, whereas the Principal did on the
_____ day of _____, 20____, by articles of that date, enter into a Contract with
the said CITY OF LIVONIA for the construction of _____ Project,
and, as a condition precedent to receiving final payment on said Contract, to execute the Bond
herein described.

NOW THEREFORE, the Principal guarantees that for a period of one (1) year from the date of
the final estimate he will, without cost to the City, keep in good order and repair any defect in the
work done under said Contract by his employees, agents, subcontractors, or material suppliers,
that may develop during said time due to improper materials, defective equipment, workmanship
or arrangements, and that he will likewise restore to good condition any work disturbed while
correcting such defects, excepting only such part or parts of said work which may have been
disturbed without his consent or approval after acceptance thereof by the CITY; and that
whenever directed to do so by the CITY, through written notice served personally or by mail upon
the Principal at _____

_____ or upon the Surety or Sureties at _____
_____,
he will proceed at once to make the repairs specified, and in case of failure to do so, within one

(1) week from the date of service of said notice or such additional time as may be fixed therein, the CITY shall have the right to purchase such materials and employ such labor and equipment as may be necessary; to undertake, do and make such repairs, and to be reimbursed by the Principal, Surety or Sureties for the full expense thereof. If it is necessary to make any repair or set a barricade at once to protect life and property, the CITY may take such action immediately, without notice to the Principal, Surety or Sureties. The CITY shall not be obliged to obtain the lowest bids for doing the work, or any part thereof, but the sums actually therefore shall be reimbursed by either the Principal, Surety or Sureties. In this connection, the judgment of the CITY shall be final and conclusive. If the Principal, for a period of one (1) year from the date of the final payment, shall keep the work done under the aforesaid Contract in good order and repair, excepting only such part or parts of said work which may have been disturbed without his consent or approval after acceptance there by the CITY, and shall, whenever given notice as herein provided, immediately proceed to make specified repairs, or, in default thereof, shall reimburse the CITY for expenses incurred in making such repairs, and shall fully indemnify, defend and save the CITY harmless from all suits and actions for damages of every name and description brought or claimed against it, for or on account of any injury or damage to person or property received or sustained by any party or parties, by or from any of the acts or omissions or through the negligence of the Principal's employees, agents, subcontractors or material suppliers in the performance of the work required by said Contract, and from any and all claims arising under the Workman's Compensation Act of the State of Michigan, as amended, then the above obligation shall be void, otherwise to remain in full force and effect.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed by their respective authorized officers this _____ day of _____, A.D. 20____.

Signed, Sealed and Delivered in the Presence of:

_____	_____ (L.S.)
_____	_____ (L.S.)
_____	_____ (L.S.)

CONTRACTOR'S DECLARATION

I hereby declare that I have not, during the period _____
to _____, A.D. 20_____, performed any work, furnished any
material, sustained any loss, damage or delay for any reason, including in situ conditions
encountered or created, or otherwise done anything for which I shall ask, demand, sue
for, or claim compensation from the City of Livonia, the Owner, or its agents, in addition
to the regular items set forth in the contract numbered _____, and dated
_____, A.D., 20_____,
for _____

executed between myself and the City of Livonia, and in the Change Orders for work
issued by the City of Livonia in writing as provided thereunder, except as I hereby make
claim for additional compensation and/or extension of time, as set forth on the itemized
statement attached hereto.

There is / is not (circle one) an itemized statement attached.

The Contractor further certifies that all his indebtedness for labor and material
incorporated in the work covered by this estimate has been fully paid and/or satisfactory
arrangements with material supplies have been made.

Contractor

By _____

Title _____

Date: _____

CD

CONTRACTOR'S AFFIDAVIT

STATE OF MICHIGAN)
 ss
COUNTY OF _____)

The undersigned Contractor, _____,
hereby represents that on _____ he (it) was awarded a Contract by
the City of Livonia, Wayne County, Michigan, to _____
_____ in accordance with the terms and conditions of Contract No. _____, and the
undersigned further represents that the subject work has now been accomplished and
the said Contract has now been completed.

The undersigned hereby warrants and certifies that all of his (its) indebtedness
arising by reason of the said Contract has been fully paid or satisfactorily secured; and
that all claims from subcontractors and others for labor and material used in
accomplishing the said project, as well as all other claims arising from the performance
of said Contract, have been fully paid or satisfactorily settled. The undersigned further
agrees that, if any such claim should hereafter arise, he (it) shall assume responsibility
from the same immediately upon request to do so by the said City of Livonia.

The undersigned, for a valuable consideration, the receipt of which is hereby
acknowledged, does waive, release and relinquish any and all claims of right of lien
which he (it) now has or may hereafter acquire upon the subject premises for labor and
material used in accomplishing said project owned by the said City of Livonia.

This affidavit is freely and voluntarily given with full knowledge of the fact, on this
_____ day of _____, 20_____.

Subscribed and sworn to before me
on this _____ day of _____,
20_____.

Contractor
By: _____
Title: _____

Notary Public _____ County, MI
My Commission Expires: _____ CA

CONTRACT

THIS CONTRACT, entered into this _____ day of _____,
A.D. 20____, between CITY OF LIVONIA, hereinafter referred to as the Owner, party
of the first part, and

NAME OF CONSTRUCTION COMPANY

hereinafter referred to as the Contractor, party of the second part.

WITNESSETH, that the said Contractor, for the consideration mentioned in the
various items set forth below, by these presents does agree that he will furnish all labor,
materials, machinery, tools, and equipment and do all things necessary for and
incidental to the

Livonia Generator Replacement

together with appurtenances thereto, as set forth in certain Notice to Bidders, Proposal,
General Conditions, Specifications, Bonds, Plans, Drawings, and the following
documents, all of which are attached hereto and made a part of this agreement:

IN CONSIDERATION WHEREOF, said Owner does agree to pay to said
Contractor the sum of "written value expressed in words and XX/100"
Dollars (\$X,XXX.XX), based upon the amounts and sum listed in the
Proposal; which is subject, however, to adjustment by reason of any change in, addition
to or deduction from the work, as provided in the General Conditions.

For the faithful performance of all and singular terms and stipulations contained in
this agreement, said parties respectively bind themselves, their heirs, executors,
administrators, successors, and assigns.

IN WITNESS HEREOF, said parties have this day hereunto set their hands and seals, in triplicate.

Witnesses for City:

CITY OF LIVONIA, OWNER

Maureen Miller Brosnan, Mayor

Lori Miller
City Clerk

Witnesses for Contractor:

Contractor

By: _____

Print Name and Title

APPROVED:

Douglas Moore
Assistant Director of Public Works

APPROVED AS TO FORM:

Department of Law

BID OPENING SHEET**FIRE STATION #3, #6, AND DPW GENERATORS**

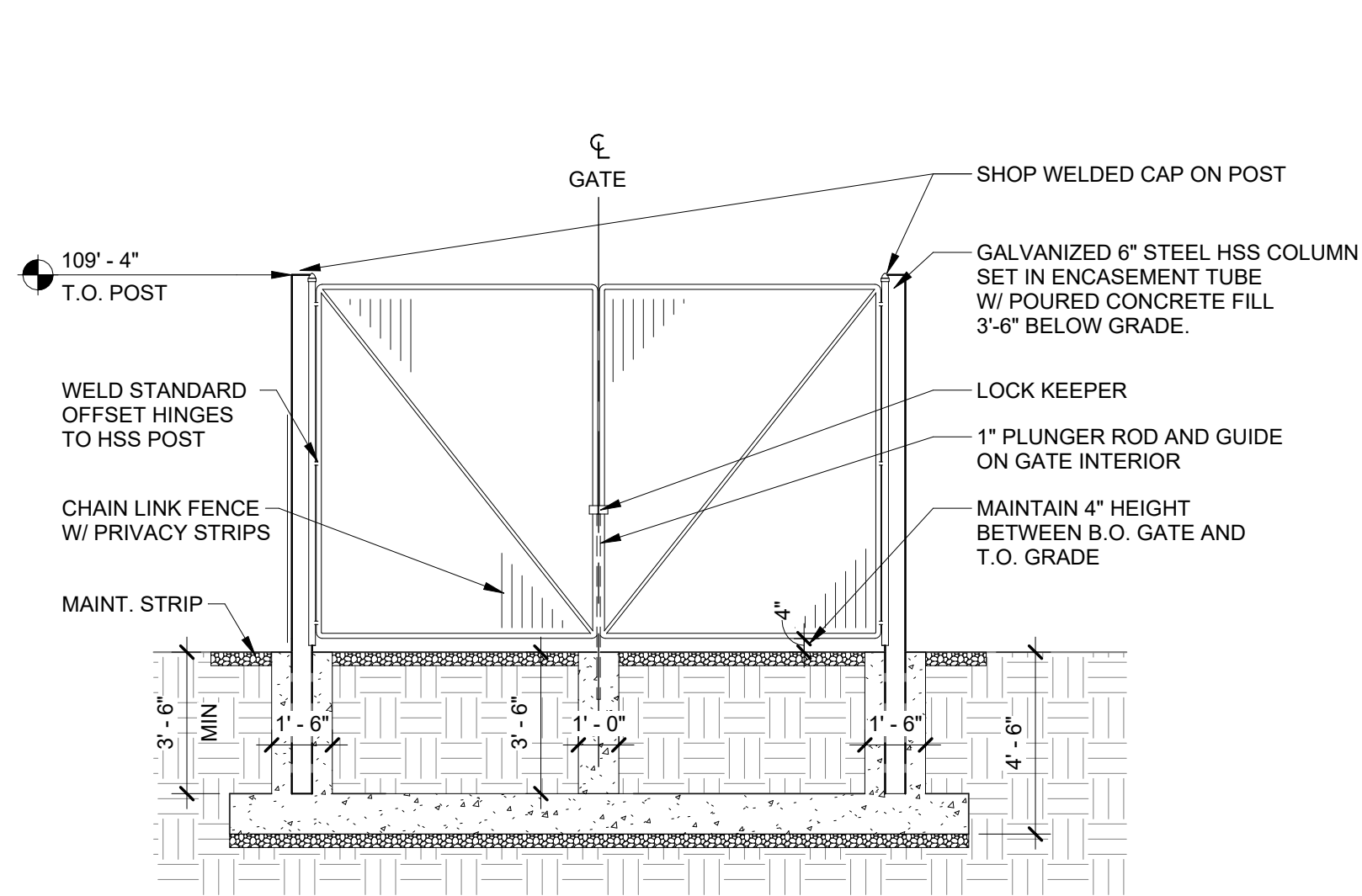
DUE DATE: 5/6/2025

VENDOR NAME	ADVANTAGE ELECTRIC & CONTROLS	BRAUN CONSTRUCTION GROUP
CITY/STATE	13240 WEST STAR DR., SHELBY TWP, MI 48315	39395 W. 12 MILE ROAD, SUITE 100, FARMINGTON HILLS, MI 48331
BID BONDS (Y/N)	YES	YES
LIVONIA FIRE STATION #3 GENERATOR PRICE	\$325,817	\$355,000
LIVONIA FIRE STATION #6 GENERATOR PRICE	\$449,529	\$450,000
DPW GENERATOR PRICE	\$322,431	\$335,000
TOTAL PRICE	\$1,097,777	\$1,140,000

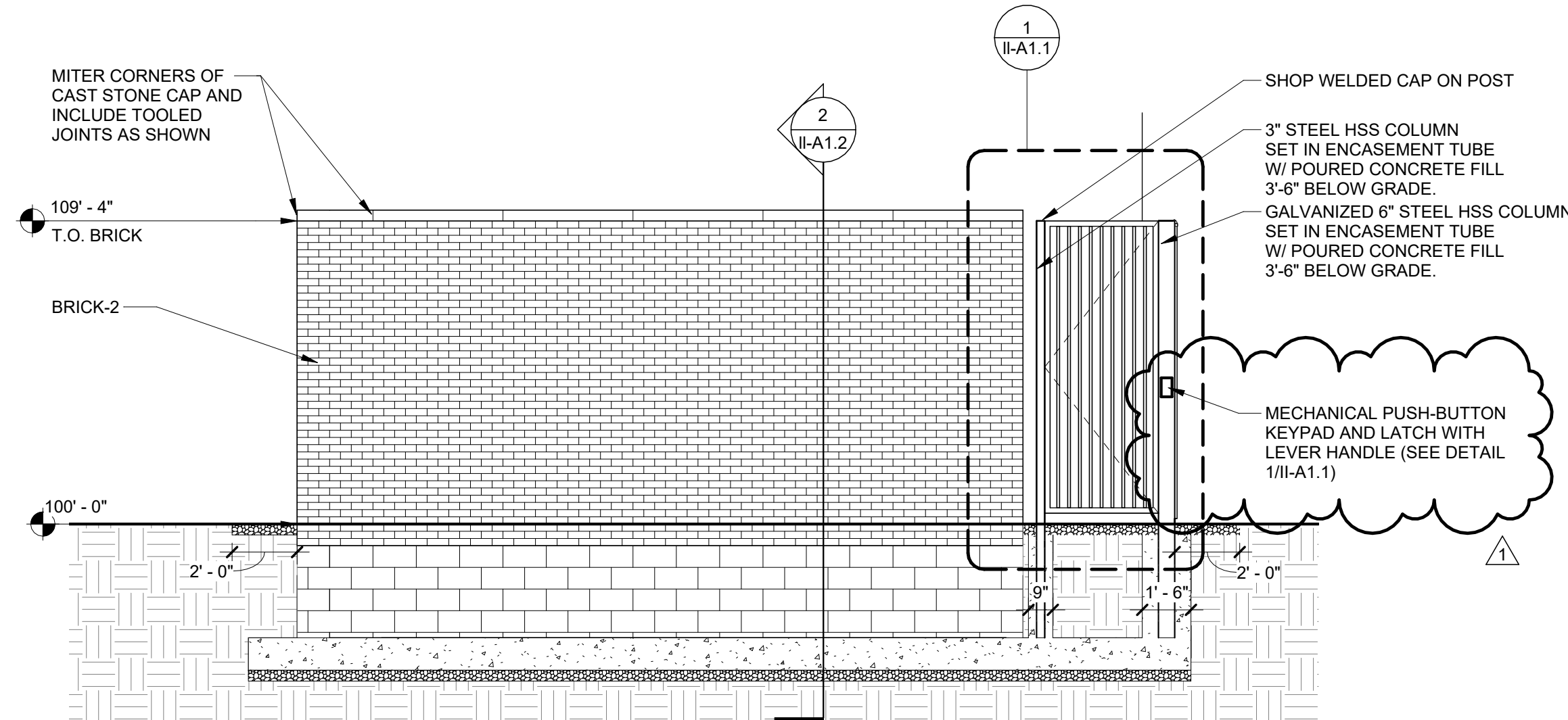
VENDOR NAME	ELECTREX INDUSTRIAL SOLUTIONS	INNOVATED ENERGY CONTROLS
CITY/STATE	41700 EXECUTIVE DRIVE, HARRISON TWP, MI 48045	1900 TWIN HILLS DRIVE, HOWELL, MI 48843
BID BONDS (Y/N)	YES	YES
LIVONIA FIRE STATION #3 GENERATOR PRICE	\$359,819	\$326,000
LIVONIA FIRE STATION #6 GENERATOR PRICE	\$434,181	\$589,000
DPW GENERATOR PRICE	\$266,110	\$230,000
TOTAL PRICE	\$1,060,110	\$1,145,000

VENDOR NAME	AMERICAN GENERATORS SALES & SERVICE LLC	
CITY/STATE	6158 DELFIELD DR., SUITE C, WATERFORD, MI 48329	
BID BONDS (Y/N)	IN PROGRESS	
LIVONIA FIRE STATION #3 GENERATOR PRICE	\$271,271.18	
LIVONIA FIRE STATION #6 GENERATOR PRICE	\$384,046.11	
DPW GENERATOR PRICE	\$334,274.70	
TOTAL PRICE	\$989,591.99	

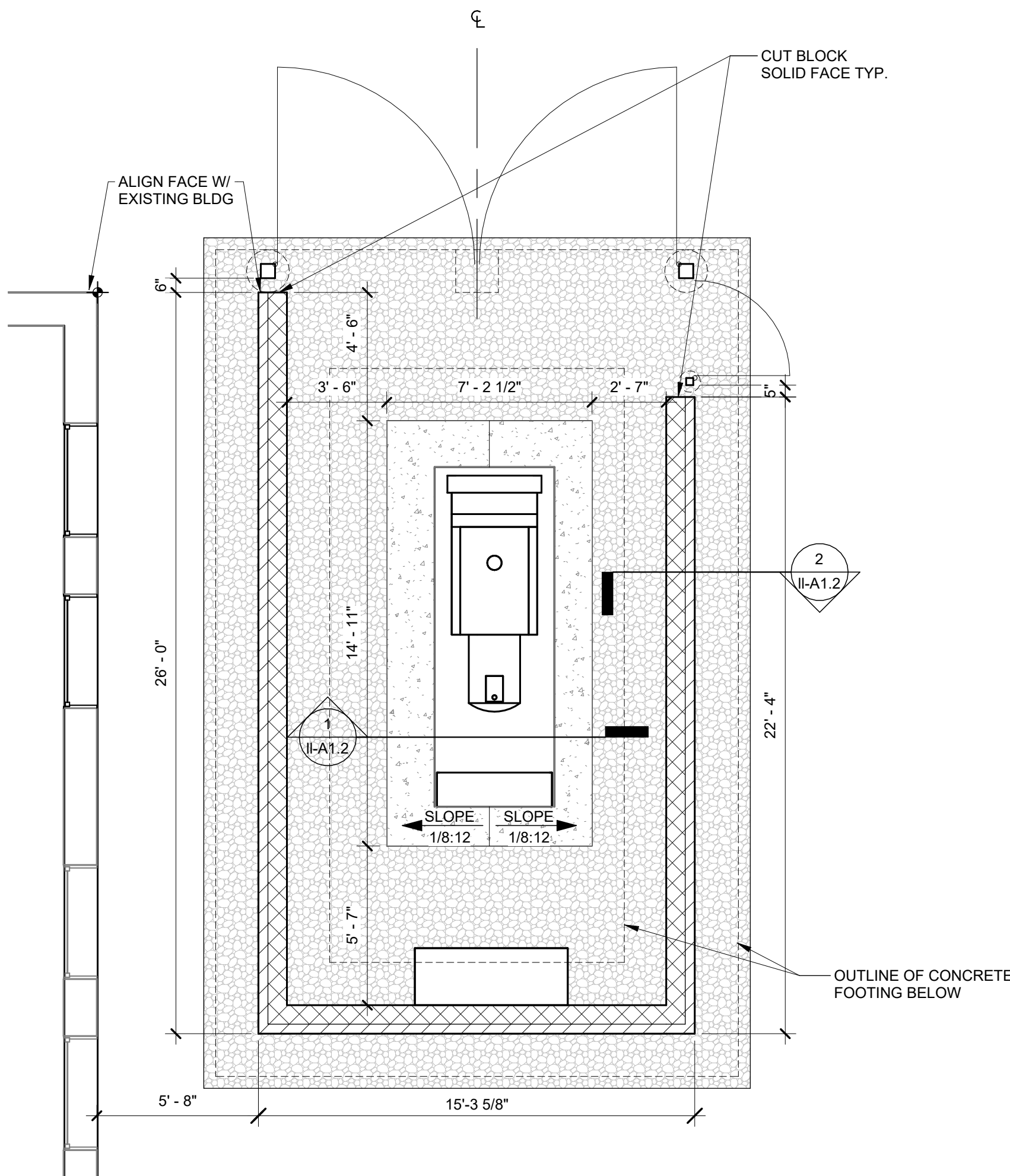
CITY REPRESENTATIVES: Aaron Lindenmuth, Clerk's Office, Gus Kandah, Purchasing Manager



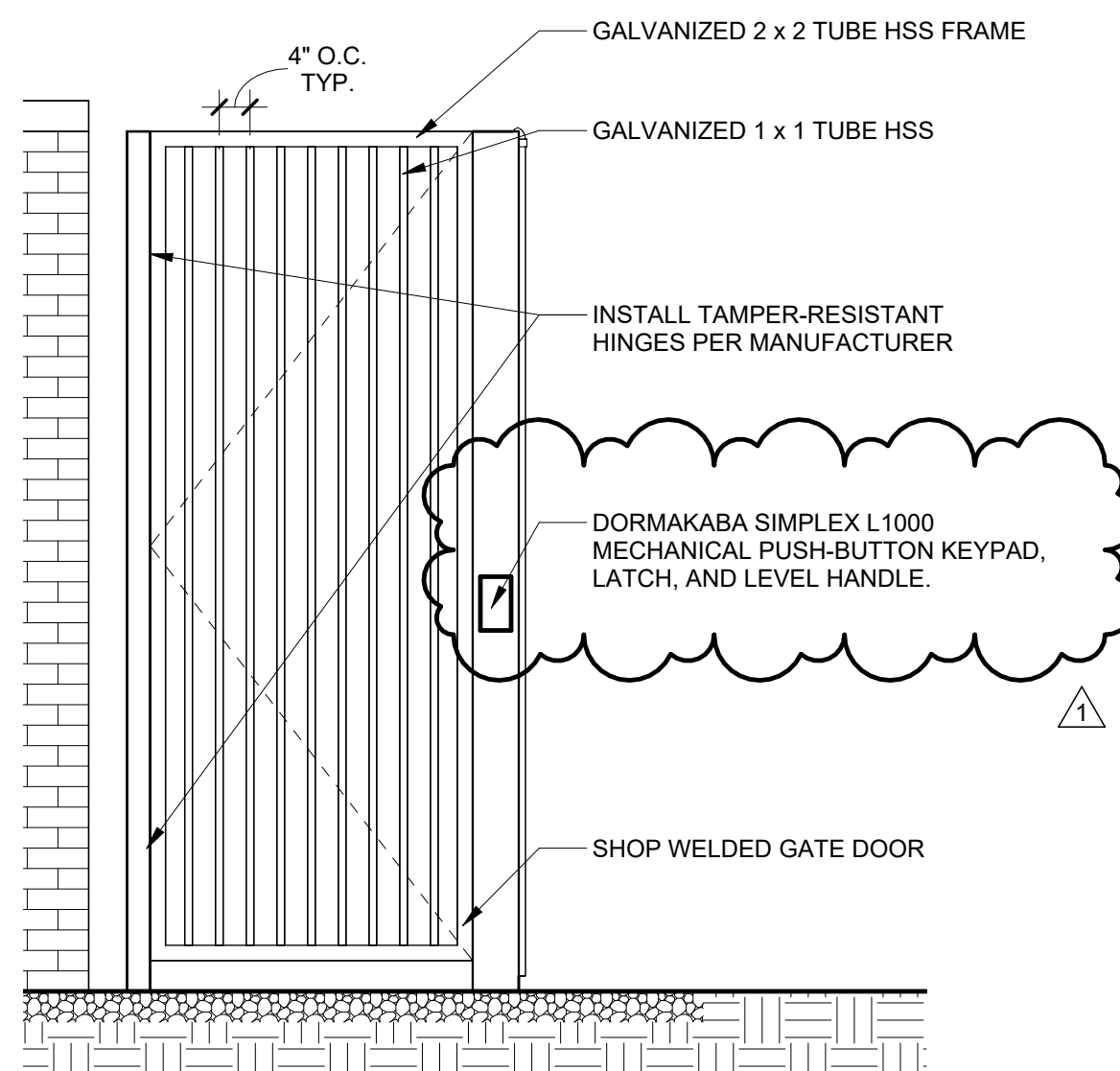
4 GATE ELEVATION - FIRE STATION #3
SCALE: 1/4" = 1'-0"



2 ENCLOSURE ELEVATION - FIRE STATION #3
SCALE: 1/4" = 1'-0"



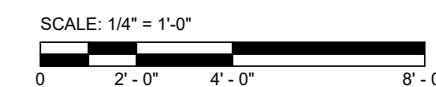
3 FOUNDATION PLAN - FIRE STATION #3
SCALE: 1/4" = 1'-0"



1 MAN-GATE ELEVATION - TYPICAL
SCALE: 1/2" = 1'-0"

GENERAL NOTES:

- REFER TO G1.1 FOR ADDITIONAL GENERAL NOTES AND INFORMATION.
- VERIFY PAD AND SCREEN WALL DIMENSIONS IN FIELD WITH CLIENT AND ARCHITECT PRIOR TO CONSTRUCTION.
- CONCRETE F'C = 4000PSI
- MASONRY F'M = 2000PSI
- FOUNDATION TO BEAR ON FIRM NATURAL MATERIAL. REMOVE ANY FILL, ORGANIC OR UNSUITABLE SOILS.
- BACKFILL WITH ENGINEERED FILL AND COMPACT TO 95% MODIFIED PROCTOR.
- CONTRACTOR TO PROVIDE TEMPORARY UTILITIES AND EQUIPMENT, COORD. WITH ELECTRICAL DOCUMENTS.



DRAWN:	AUTHOR:	CHKD:	CHECKED:	NO.	REVISION	DATE
DESIGNED:	DESIGNER:			1	PERMIT SET	5/24/2024
APPRVD:	APPROVER:				ADDENDUM #1	8/12/2024
DATE:	08-03-2024					
PROJECT NUMBER	2142-7258-09					

LIVONIA	CITY OF LIVONIA LIVONIA GENERATORS	MI
ARCHITECTURAL DETAIL - FIRE STATION #3		

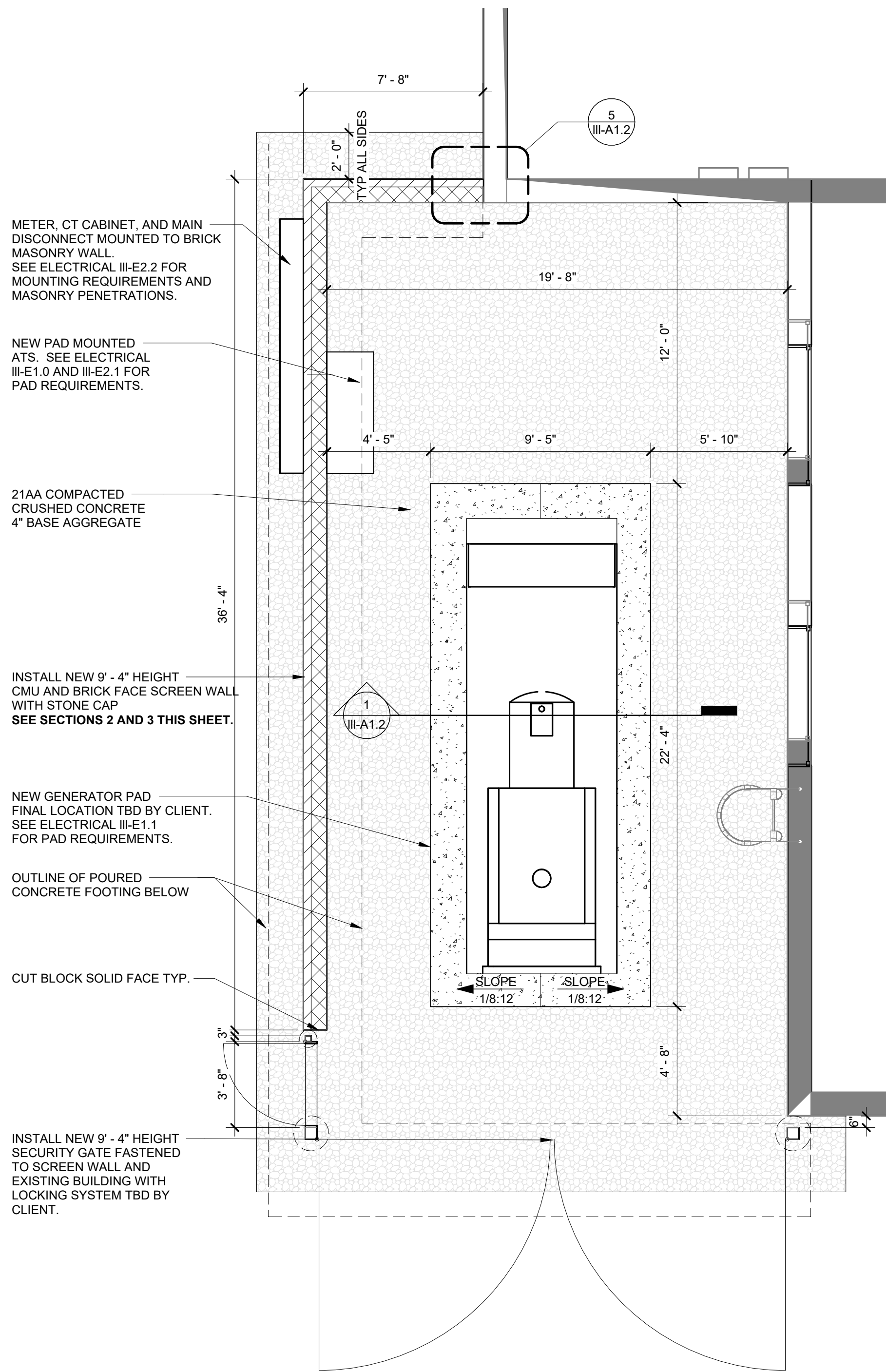
DRAWING NUMBER	II-A1.1
ARCHITECTURE	

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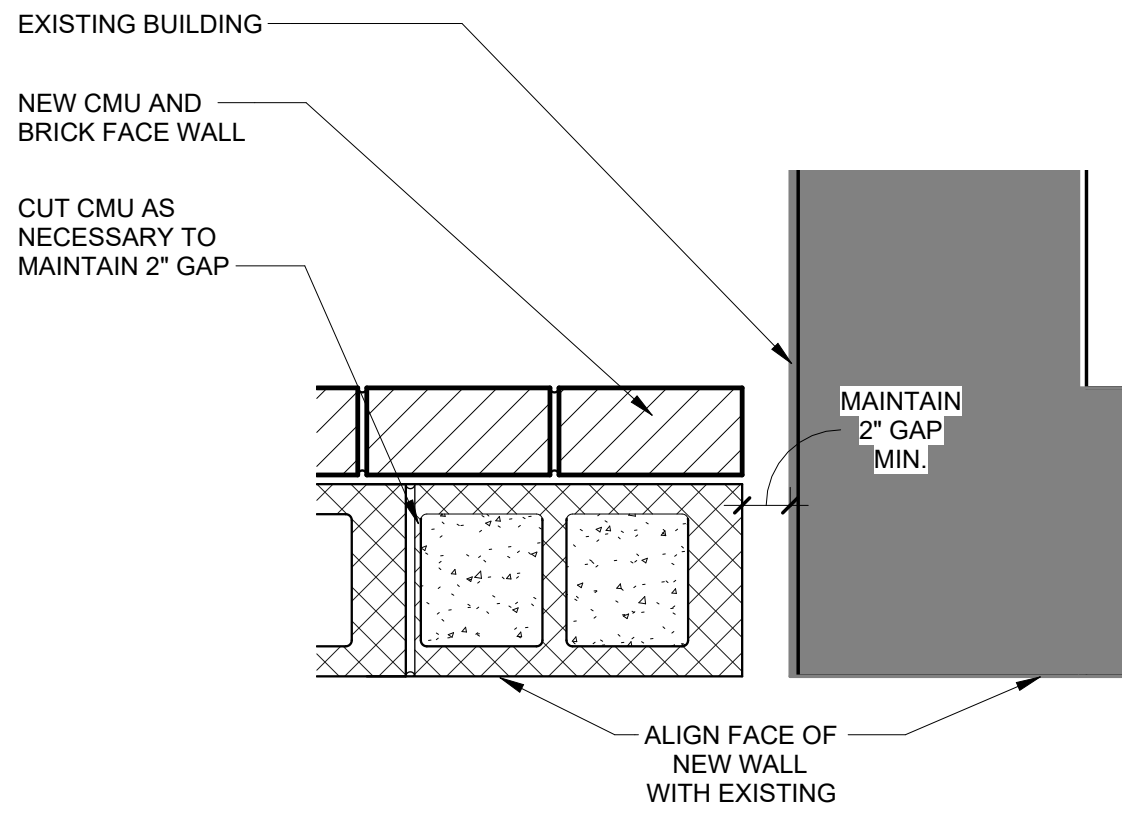
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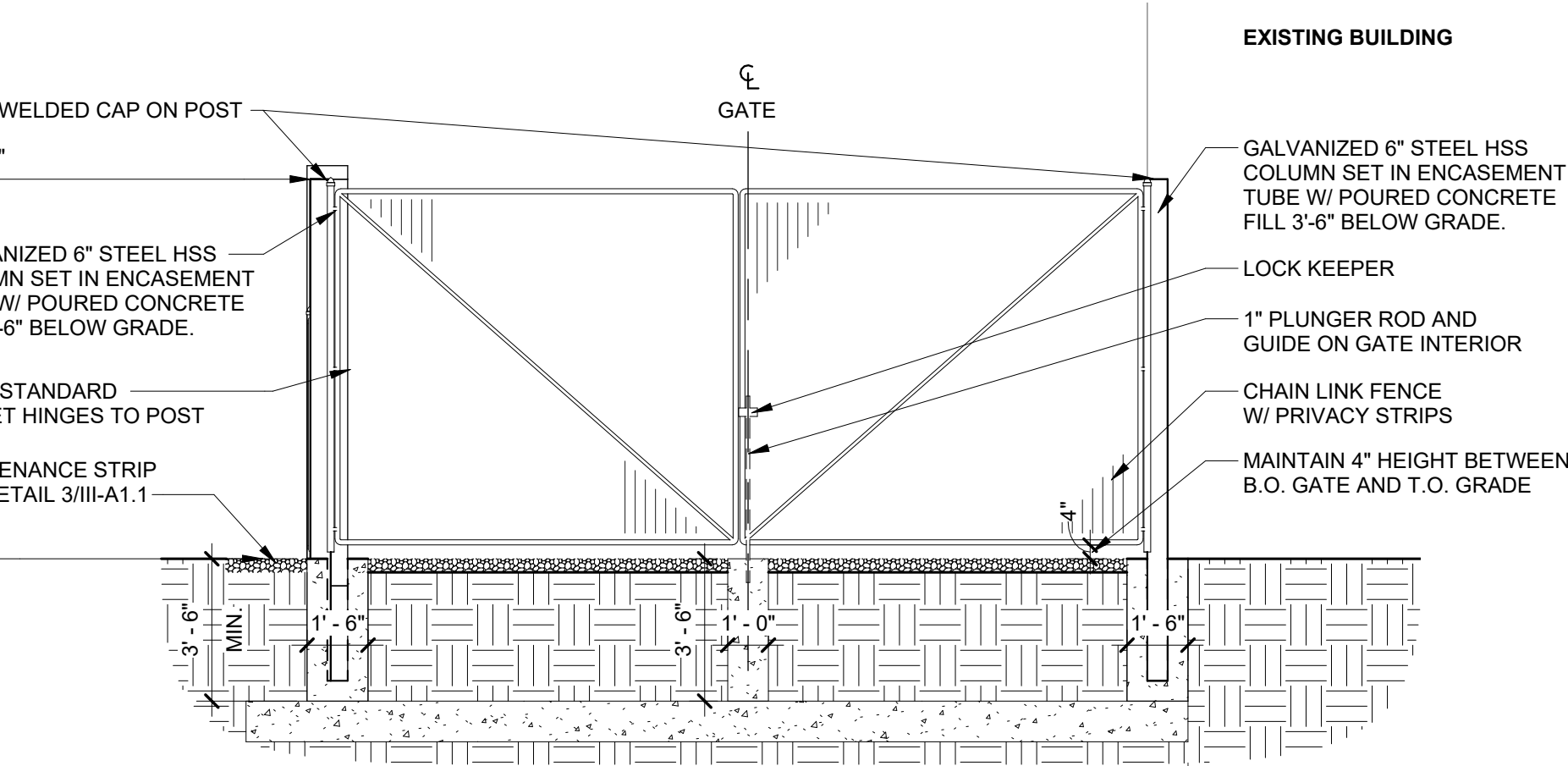
4 NEW SITE PLAN - FIRE STATION #6 - ENLARGED PLAN
SCALE: 1/4" = 1'-0"



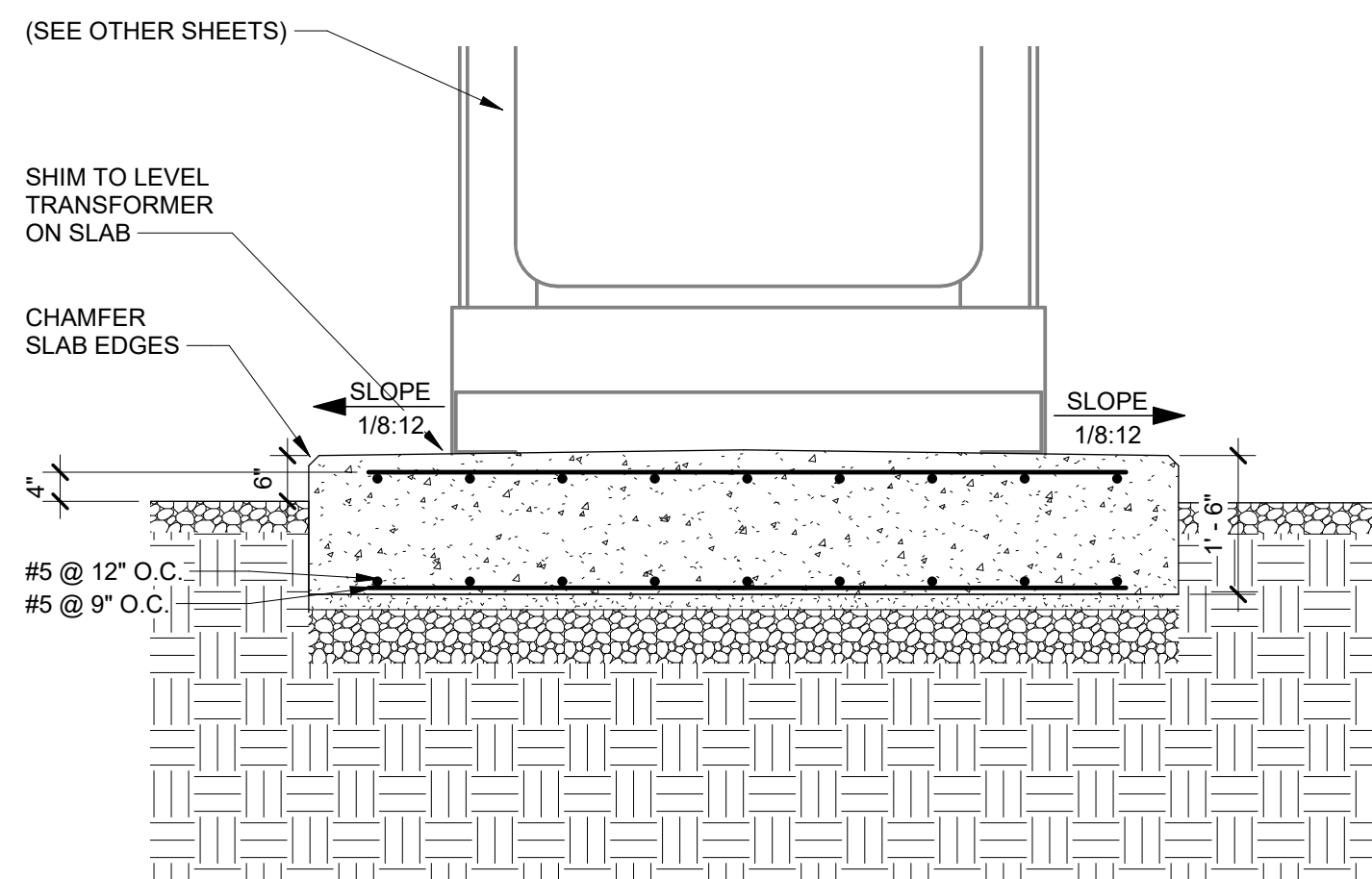
5 SCREEN WALL CONNECTION DETAIL
SCALE: 1 1/2" = 1'-0"



3 SERVICE GATE ELEVATION
SCALE: 1/4" = 1'-0"

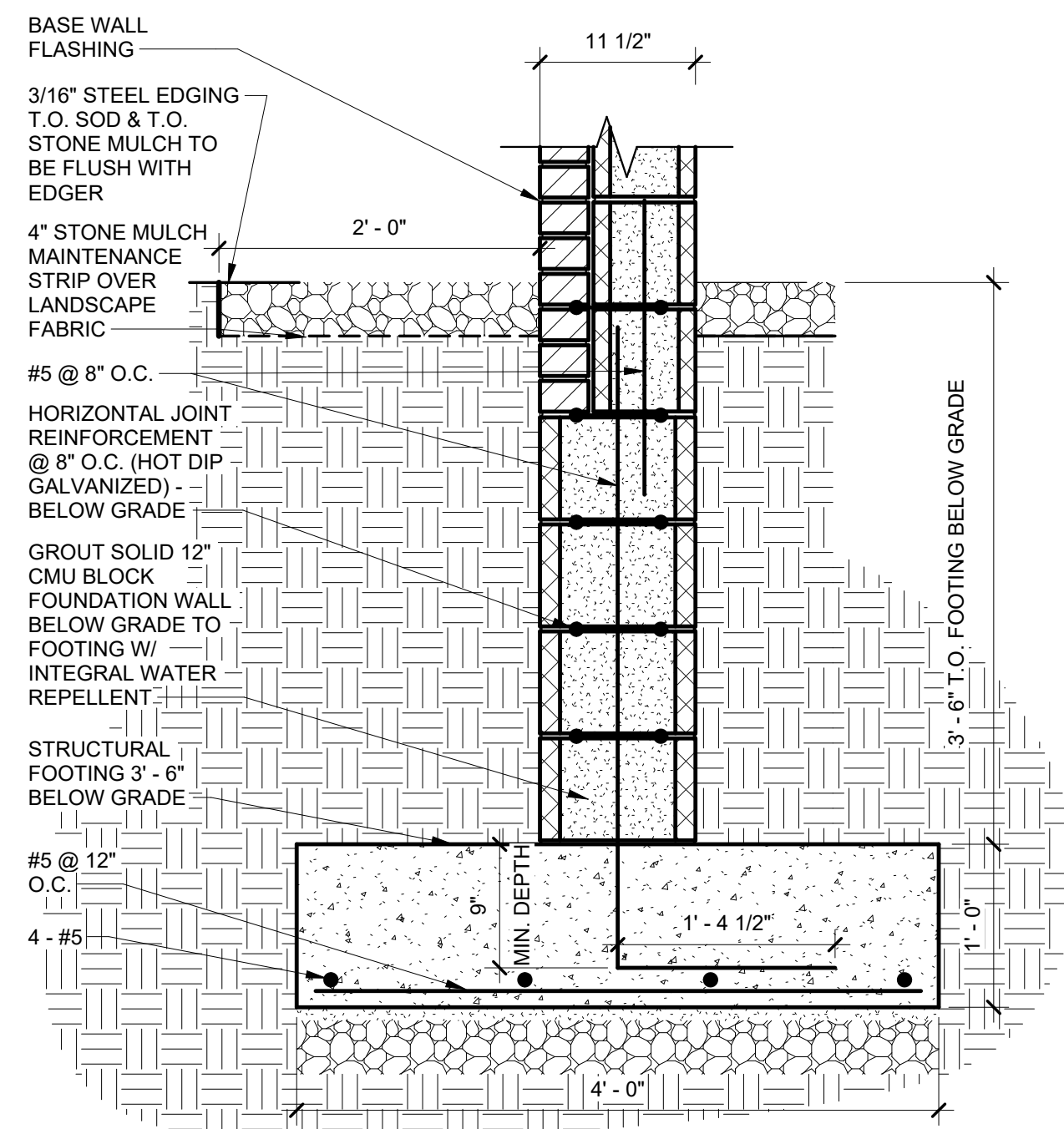


2 GATE ELEVATION
SCALE: 1/4" = 1'-0"



1 18" SLAB SECTION - FIRE STATION #6
SCALE: 1/2" = 1'-0"

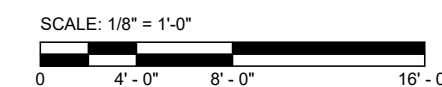
7 CMU/BRICK WITH CAP SCREEN WALL SECTION
SCALE: 1" = 1'-0"



6 CMU SCREEN WALL FOUNDATION/FOOTING SECTION
SCALE: 1" = 1'-0"

GENERAL NOTES:

- REFER TO G1.1 FOR ADDITIONAL GENERAL NOTES AND INFORMATION.
- VERIFY PAD AND SCREEN WALL DIMENSIONS IN FIELD WITH CLIENT AND ARCHITECT PRIOR TO CONSTRUCTION.
- CONCRETE F'C = 4000PSI
- MASONRY F'M = 2000PSI
- FOUNDATION TO BEAR ON FIRM NATURAL MATERIAL. REMOVE ANY FILL, ORGANIC OR UNSUITABLE SOILS.
- BACKFILL WITH ENGINEERED FILL AND COMPACT TO 95% MODIFIED PROCTOR.
- CONTRACTOR TO PROVIDE TEMPORARY UTILITIES AND EQUIPMENT; COORD. WITH ELECTRICAL DOCUMENTS.



DATE	REVISION	NO.	CHK'D: Check
5/24/2024	PERMIT SET		
8/12/2024	ADDENDUM #1	1	

DRAWN:	Author	CHK'D:	Check
DESIGNED:	Designer		

CITY OF LIVONIA
LIVONIA GENERATORS

LIVONIA

DRAWING NUMBER
III-A1.2

ARCHITECTURE

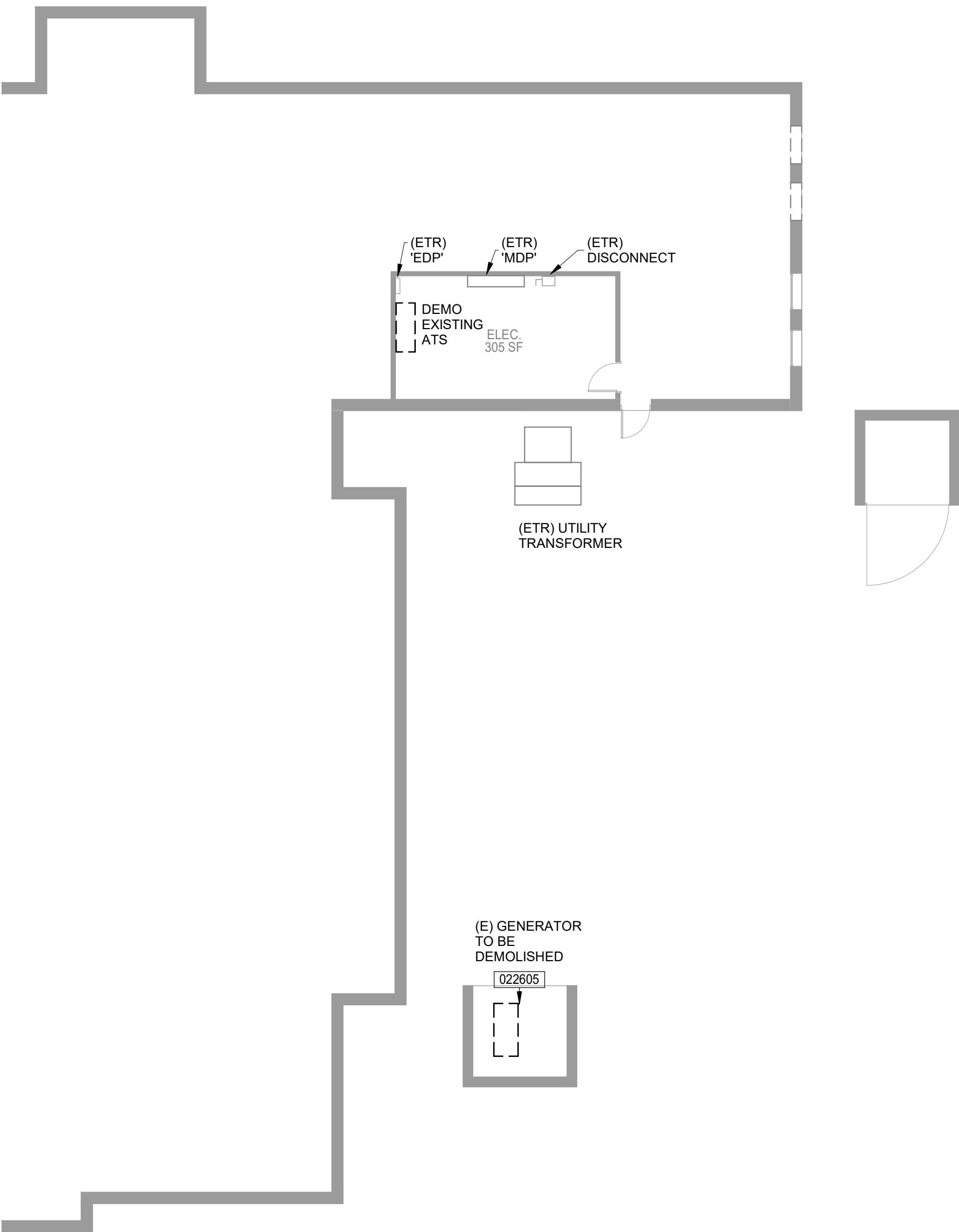
NEW ARCHITECTURAL PLAN - FIRE STATION #6

2142-7258-09

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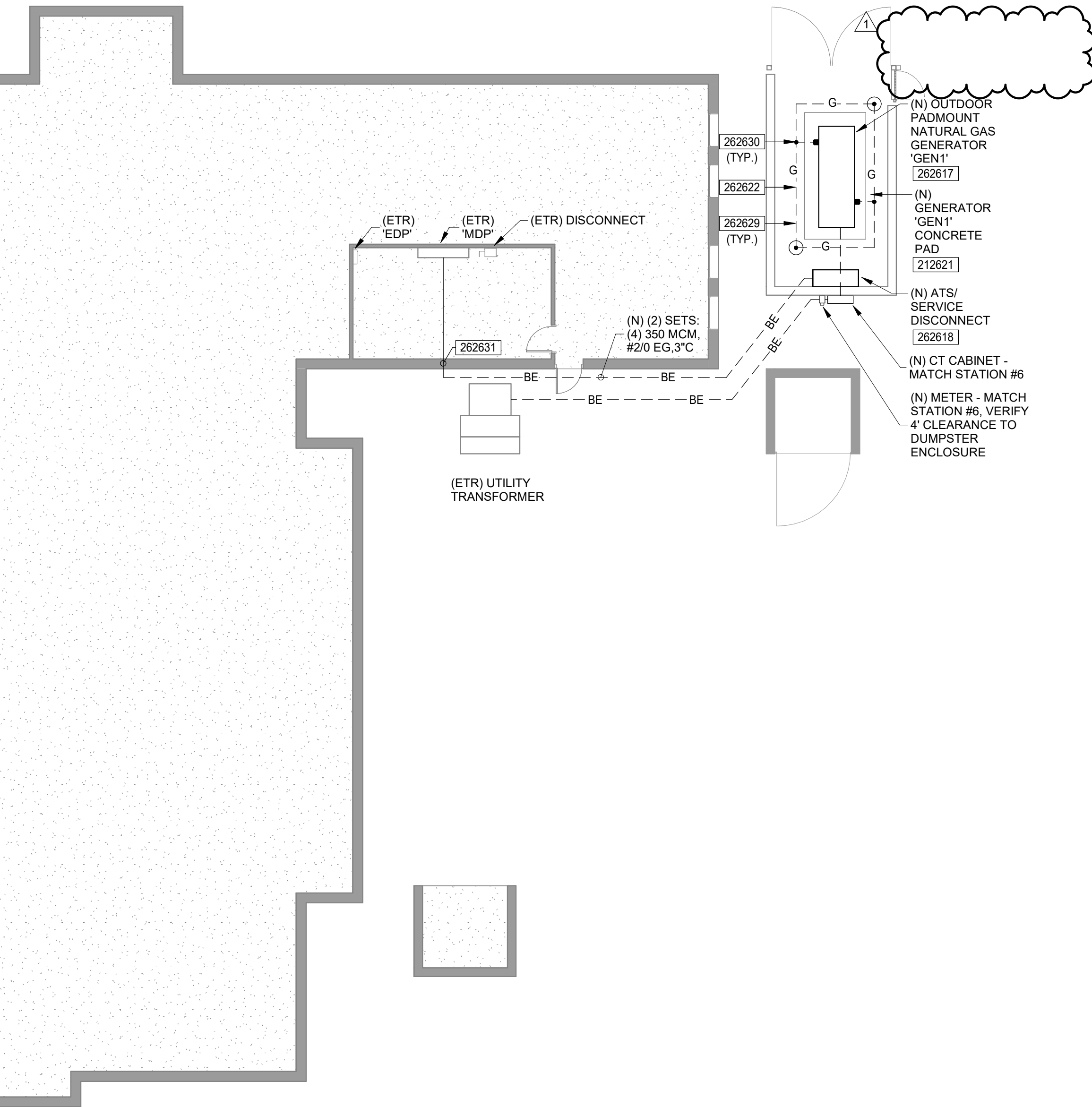
1 SITE ELECTRICAL PLAN (FIRE STATION #3) - REMOVAL

SCALE: 3/32" = 1'-0"



2 SITE ELECTRICAL PLAN (FIRE STATION #3) - INSTALLATION

SCALE: 3/32" = 1'-0"



DRAWINGS ARE DIAGRAMMATIC. CONTRACTOR SHALL VISIT SITE, PRIOR TO BIDDING, TO FIELD DETERMINE/VERIFY EXISTING CONDITIONS (INCLUDING ALL ACCESSIBLE SPACES, AREAS, SPACES, EQUIPMENT, BOXES, ETC.). CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL WORK NECESSARY, NOT OTHERWISE INDICATED, AT NO ADDITIONAL COST TO OWNER. NOTIFY EOR, PRIOR TO BIDDING, WHERE EXISTING CONDITIONS REQUIRE ELECTRICAL WORK NOT OTHERWISE INDICATED.



GENERAL NOTES

- SHADED LINES INDICATE EXISTING ELECTRICAL TO REMAIN UON.
- HEAVY AND XD LINES INDICATE EXISTING ELECTRICAL TO BE REMOVED UON.
- HEAVY LINES INDICATE NEW ELECTRICAL TO BE INSTALLED UON.
- MINIMIZE OUTAGES TO EXISTING POWER DISTRIBUTION SYSTEM. PROVIDE OWNER A MINIMUM OF TEN (10) WORKING DAYS OF ADVANCED NOTICE OF PLANNED OUTAGES. PROVIDE TEMPORARY POWER AS NECESSARY DURING PLANNED OUTAGES.
- CONTRACTOR SHALL FIELD DETERMINE SEQUENCE OF CONSTRUCTION TO MINIMIZE OUTAGES TO EXISTING POWER DISTRIBUTION SYSTEM. PROVIDE TEMPORARY POWER AS NECESSARY DURING PLANNED OUTAGES. SUBMIT SEQUENCE OF CONSTRUCTION, TO OWNER'S CONSTRUCTION REPRESENTATIVE, PRIOR TO CONSTRUCTION, FOR REVIEW/APPROVAL.
- EXISTING UTILITY LOCATIONS SHOWN MAY BE DIAGRAMMATIC OR NOT SHOWN. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING ALL EXISTING UTILITIES.
- DIRECT BURY CONDUITS A MINIMUM 36" BELOW FINISHED GRADE UNLESS OTHERWISE NOTED. FOR DIRECT BURIED CONDUIT DETAIL, REFER TO DETAIL #4 THIS DRAWING.
- USE GALVANIZED RIGID CONDUIT SLEEVES UNDER PAVED TRAFFIC ROADWAYS/PARKING LOT AREAS AND 5'-0" BEYOND THESE AREAS.
- CONDUIT ROUTINGS INDICATED ARE DIAGRAMMATIC. FIELD TRACE AND DETERMINE ALL ROUTINGS PRIOR TO CONSTRUCTION. WHERE NECESSARY, USE HAND DIGGING TO MINIMIZE OUTAGES TO EXISTING UNDERGROUND.
- CONTRACTOR SHALL PATCH AND REPAIR ALL SURFACES DISTURBED TO MATCH EXISTING UNLESS OTHERWISE NOTED. WHERE POSSIBLE, COORDINATE UNDERGROUND ROUTINGS TO MINIMIZE PATCH AND REPAIR WORK. CONTRACTOR SHALL FIELD COORDINATE EXACT CONDUIT ROUTINGS PRIOR TO CONSTRUCTION TO AVOID UNDERGROUND UTILITIES, OBSTRUCTIONS, OR OTHER OBSTACLES REQUIRED TO MINIMIZE ELECTRICAL OUTAGES.

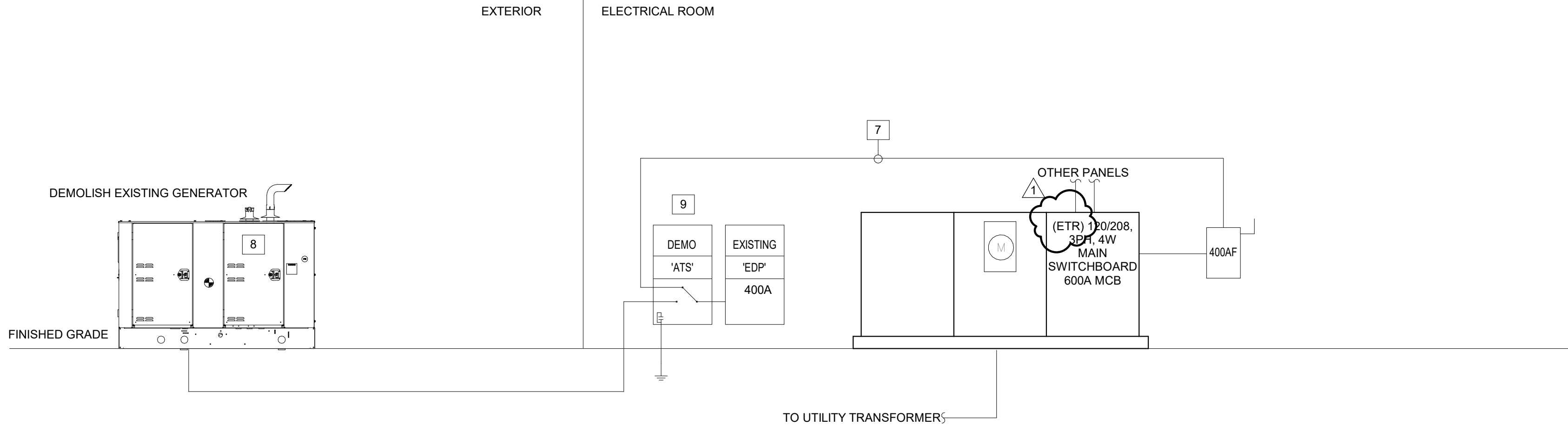
KEYNOTES

- | NO. | DESCRIPTION |
|--------|---|
| 022605 | DEMOLISH EXISTING GENERATOR AND ALL ASSOCIATED CABLES BACK TO ATS. ABANDON IN PLACE PERMANENT STRUCTURE ENCLOSURE AND ANY OTHER EQUIPMENT WHICH WILL REQUIRE REMOVING STRUCTURE. |
| 212621 | PROVIDE 18" THICK X 86.4" WIDE X 173" LONG CONCRETE PAD (FC = 4000 PSI) REINFORCED WITH #5 BARS SPACED @ 9" O.C. (TOP AND BOTTOM) OVER 6" THICK COMPACTED AGGREGATE BASE. SET TOP OF SLAB 6" ABOVE FINISH GRADE. VERIFY WITH GENERATOR VENDOR FOR DIMENSIONS AND REQUIREMENTS PRIOR TO INSTALL. |
| 262617 | NEW PAD MOUNTED GENERATOR. VERIFY LOCATION PRIOR TO INSTALL. INSTALL AT LEAST 5' MINIMUM DISTANCE FROM BUILDING AND ANY OTHER OBSTACLES. SEE SHEET II-E2.1 FOR MORE INFORMATION. |
| 262618 | NEW PAD MOUNTED ATS. SEE SHEET II-E2.1 FOR MORE INFORMATION. |
| 262622 | PROVIDE COUNTERPOISE GROUNDING ELECTRODE SYSTEM WITH TWO (2) 5/8" DIA. X 10'-0" L COPPER CLAD GROUNDING ELECTRODE RODS. BOND TO GENERATOR GROUND LUG (INSIDE GENERATOR HOUSING). BOND TO GENSET ENCLOSURE FRAME IN A MINIMUM OF TWO (2) LOCATIONS. USE EXOTHERMIC WELDS UON. |
| 262629 | PROVIDE #3/0 BARE COPPER GROUNDING ELECTRODE CABLE. DIRECT BURY A MINIMUM 30" BFG PER NEC. |
| 262630 | PROVIDE EXOTHERMIC WELD FOR GROUNDING ELECTRODE CABLE CONNECTION. |
| 262631 | CORE THROUGH THE EXTERIOR WALL OF BUILDING AND PROVIDE LINK SEAL FOR CONDUIT PENETRATION THROUGH WALL. FOR LINK SEAL DETAIL, SEE DETAIL #3 THIS DRAWING. |

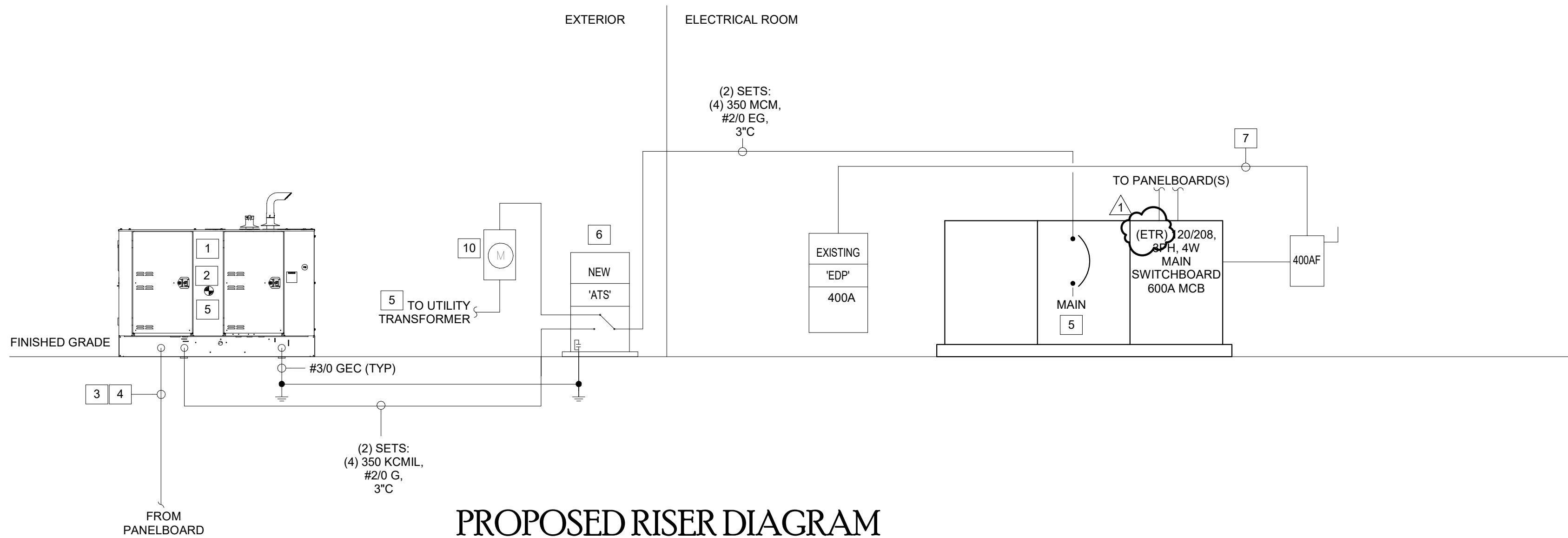
DLZ ARCHITECTURE • ENGINEERING • PLANNING SURVEYING • CONSTRUCTION SERVICES	DATE: 08/13/24	
	REVISION	NO.
	1	1
CITY OF LIVONIA GENERATOR REPLACEMENTS	DRAWN: J.B. DESIGNED: J. BUANI APPROVED: J. HAINES DATE: 06-04-2024	CHKD: J.H. PROJECT NUMBER: 2142-7258-09
	ELECTRICAL SITE PLAN (FIRE STATION #3)	
DRAWING NUMBER II-E1.0	ELECTRICAL	

RISER NOTES

1. PROVIDE GENERAC SG150 120/208V, 3Ø 150KW IN LEVEL 2 ACOUSTIC AND WEATHER PROTECTED ENCLOSURE OR APPROVED EQUAL. PROVIDE 600A, 100% RATED GROUND FAULT INDICATION OUTPUT BREAKER. GENERATOR AND ACCESSORIES SHALL BE PROVIDED BY CONTRACTOR. COORDINATE EXACT LOCATION WITH OWNER. COORDINATE NATURAL GAS CONNECTION WITH LOCAL UTILITY COMPANY. VERIFY PAD REQUIREMENTS PRIOR TO INSTALL.
2. PROVIDE ELECTRONIC TRIP TYPE MAIN CIRCUIT BREAKER. BOND NEUTRAL AND GROUND AT GENERATOR.
3. PROVIDE (2) #12, #12 EG, 3/4"C FOR GENERATOR START CIRCUIT AND CONNECT TO EXISTING OPEN CIRCUIT IN PANEL.
4. PROVIDE (2) #12, #12 EG, 3/4"C FOR GENERATOR BLOCK HEATER AND CONNECT TO EXISTING OPEN CIRCUIT IN PANEL.
5. VERIFY NEUTRAL AND GROUND BONDED AT TRANSFORMER. IF BONDED AT SWITCHBOARD REMOVE BONDING JUMPER AND BOND AT TRANSFORMER AND GENERATOR.
6. NEW EXTERIOR PAD MOUNTED SERVICE ENTRANCE RATED, UTILITY AND GENERATOR RATED DISCONNECT BREAKER, NEMA-3R 120/208V, 3Ø 600A OPEN TYPE AUTOMATIC TRANSFER SWITCH ASCO MODEL J7ACPB830600C50M 7000 SERIES BYPASS POWER TRANSFER SWITCH. VERIFY PAD REQUIREMENTS WITH MANUFACTURER PRIOR TO INSTALL.
7. RELOCATE EXISTING CONDUIT AND CONDUCTORS TO EXISTING PANEL 'EDP'. EXTEND/MODIFY EXISTING CONDUCTORS AS REQUIRED AND RECONNECT. REPLACE IF REQUIRED.
8. EXISTING GENERATOR TO BE DEMOLISHED. EXISTING ENCLOSURE TO BE ABANDONED IN PLACE. DEMOLISH ALL GENERATOR RELATED EQUIPMENT INCLUDING JUNCTION BOXES, WIRE AND CONDUIT THAT DOES NOT REQUIRE ENCLOSURE DEMOLITION.
9. DEMOLISH EXISTING ATS. RELOCATE EXISTING WIRES AS NOTED IN NOTE 7. DEMOLISH ALL OTHERS BACK TO SOURCE IF POSSIBLE.
10. VERIFY METER ENCLOSURE REQUIREMENTS WITH UTILITY.



EXISTING RISER DIAGRAM



PROPOSED RISER DIAGRAM

RISER DIAGRAM (FIRE STATION #3)
SCALE: N.T.S.

GENERAL NOTES

- SHADED LINES INDICATE EXISTING ELECTRICAL TO REMAIN UON.
- HEAVY AND XD LINES INDICATE EXISTING ELECTRICAL TO BE REMOVED UON.
- HEAVY LINES INDICATE NEW ELECTRICAL TO BE INSTALLED UON.
- MINIMIZE OUTAGES TO EXISTING POWER DISTRIBUTION SYSTEM. PROVIDE OWNER A MINIMUM OF TEN (10) WORKING DAYS OF ADVANCED NOTICE OF PLANNED OUTAGES. PROVIDE TEMPORARY POWER AS NECESSARY DURING PLANNED OUTAGES.
- CONTRACTOR SHALL FIELD DETERMINE SEQUENCE OF CONSTRUCTION TO MINIMIZE OUTAGES TO EXISTING POWER DISTRIBUTION SYSTEM. PROVIDE TEMPORARY POWER AS NECESSARY DURING PLANNED OUTAGES. SUBMIT SEQUENCE OF CONSTRUCTION, TO OWNER'S CONSTRUCTION REPRESENTATIVE, PRIOR TO CONSTRUCTION, FOR REVIEW/APPROVAL.
- EXISTING UTILITY LOCATIONS SHOWN MAY BE DIAGRAMMATIC OR NOT SHOWN. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING ALL EXISTING UTILITIES.
- DIRECT BURY CONDUITS A MINIMUM 36" BELOW FINISHED GRADE UNLESS OTHERWISE NOTED. FOR DIRECT BURIED CONDUIT DETAIL, REFER TO DETAIL #4 THIS DRAWING.
- USE GALVANIZED RIGID CONDUIT SLEEVES UNDER PAVED TRAFFIC ROADWAYS/PARKING LOT AREAS AND 5'-0" BELOW THESE AREAS.
- CONDUIT ROUTINGS INDICATED ARE DIAGRAMMATIC. FIELD TRACE AND DETERMINE ALL ROUTINGS PRIOR TO CONSTRUCTION. WHERE NECESSARY, USE HAND DIGGING TO MINIMIZE OUTAGES TO EXISTING UNDERGROUND.
- CONTRACTOR SHALL PATCH AND REPAIR ALL SURFACES DISTURBED TO MATCH EXISTING UNLESS OTHERWISE NOTED. WHERE POSSIBLE, COORDINATE UNDERGROUND ROUTINGS TO MINIMIZE PATCH AND REPAIR WORK. CONTRACTOR SHALL FIELD COORDINATE EXACT CONDUIT ROUTINGS PRIOR TO CONSTRUCTION TO AVOID UNDERGROUND UTILITIES, OBSTRUCTIONS, OR OTHER OBSTACLES REQUIRED TO MINIMIZE ELECTRICAL OUTAGES.

DRAWINGS ARE DIAGRAMMATIC. CONTRACTOR SHALL VISIT SITE, PRIOR TO BIDDING, TO FIELD DETERMINE/VERIFY EXISTING CONDITIONS (INCLUDING ALL ACCESSIBLE SPACES, AREAS, SPACES, EQUIPMENT, BOXES, ETC.). CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL WORK NECESSARY, NOT OTHERWISE INDICATED, AT NO ADDITIONAL COST TO OWNER. NOTIFY EOR, PRIOR TO BIDDING, WHERE EXISTING CONDITIONS REQUIRE ELECTRICAL WORK NOT OTHERWISE INDICATED.

DLZ

ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES

DRAWING NUMBER

11-E2.1

LIVONIA

CITY OF LIVONIA
GENERATOR REPLACEMENTS

RISER DIAGRAM (FIRE STATION #3) - INSTALLATION

MICHIGAN

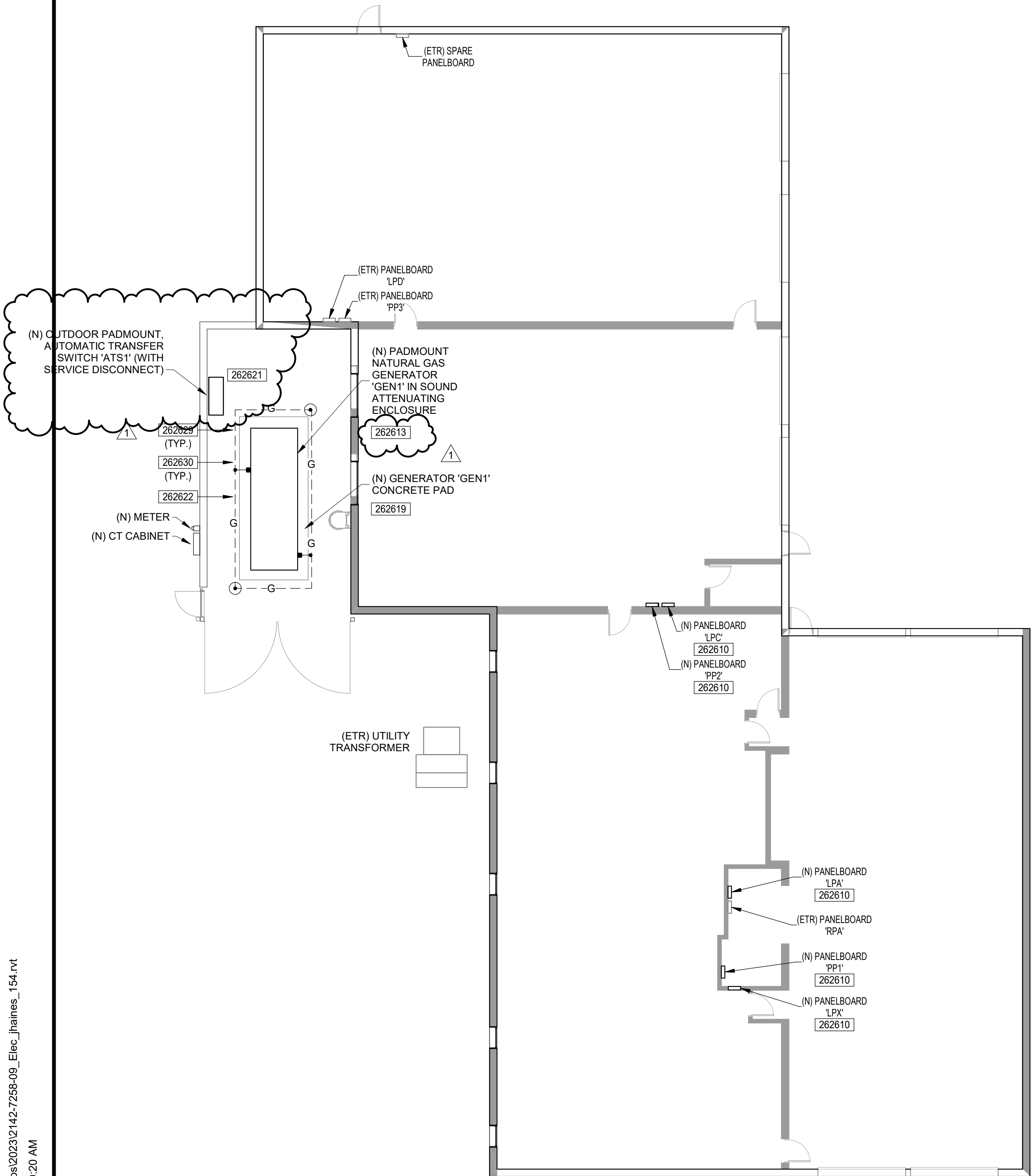
DATE
08/13/24

REVISION
1 ADDENDUM #1

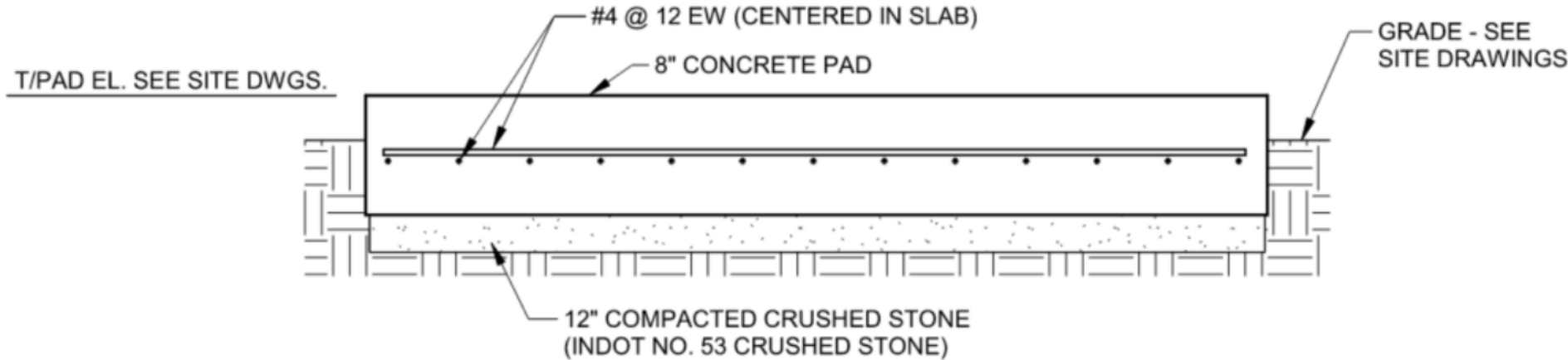
NO.

CHKD: J.H.
DESIGNED: J. BIJANI
APPRVD: J. HAINES
DATE: 06-04-2024
PROJECT NUMBER
2142-7258-09

ELECTRICAL

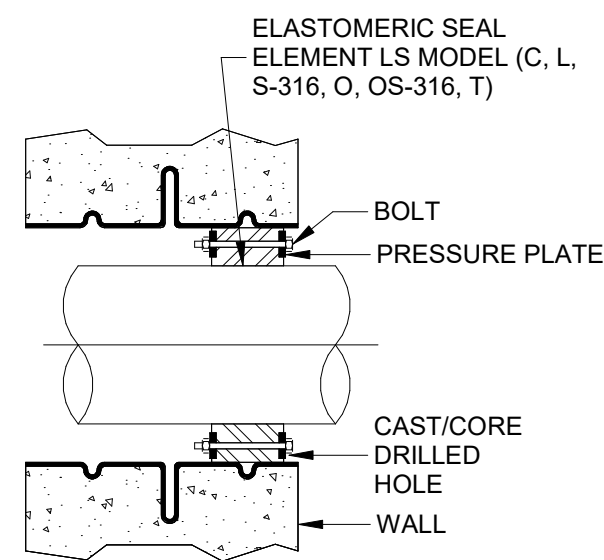


1 SITE ELECTRICAL PLAN (FIRE STATION #6) - INSTALLATION
SCALE: 3/32" = 1'-0"

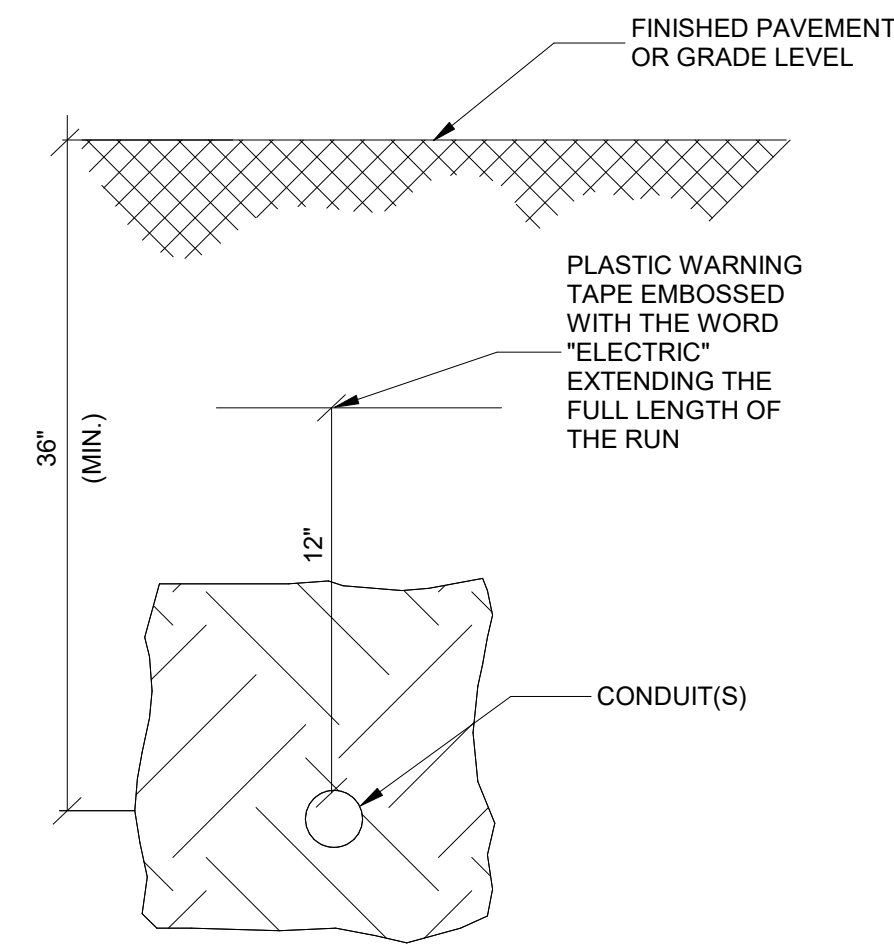


- NOTE:**
- COORDINATE LOCATION AND SIZE OF EQUIPMENT PAD WITH EQUIPMENT MANUFACTURER, MECHANICAL AND ELECTRICAL PLANS.
 - PAD TO BE A MINIMUM 12" LARGER THAN EQUIPMENT ON ALL SIDES

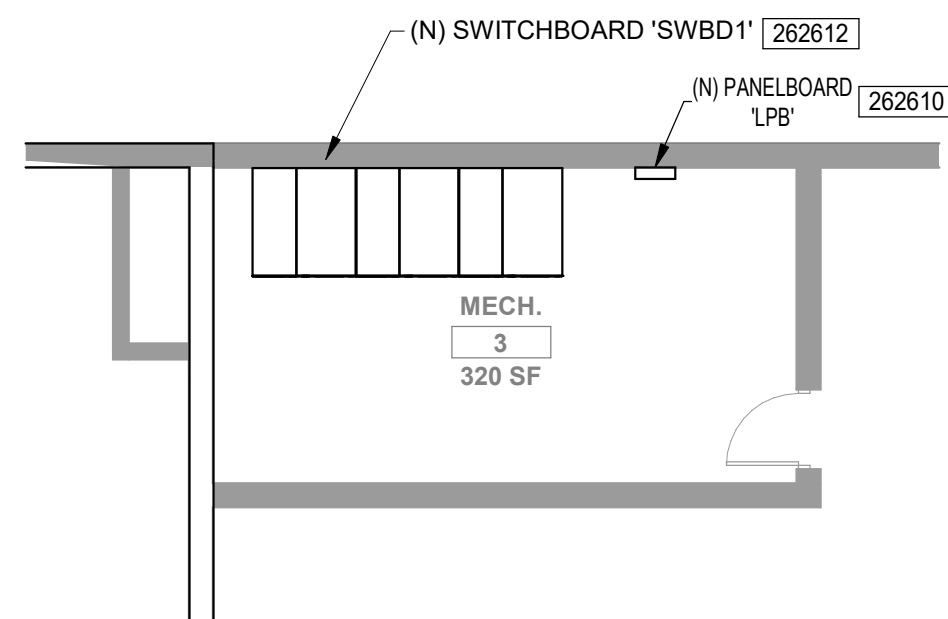
5 TYPICAL EXTERIOR EQUIPMENT PAD DETAIL
SCALE: N.T.S.



4 WALL PENETRATION LEAK SEAL DETAIL
SCALE: N.T.S.



3 DIRECT BURIED CONDUIT DETAIL
SCALE: N.T.S.



2 ELECTRICAL PLAN (BASEMENT ELECTRICAL ROOM) - INSTALLATION
SCALE: 1/8" = 1'-0"

DRAWINGS ARE DIAGRAMMATIC. CONTRACTOR SHALL VISIT SITE, PRIOR TO BIDDING, TO FIELD DETERMINE/VERIFY EXISTING CONDITIONS (INCLUDING ALL ACCESSIBLE SPACES, AREAS, SPACES, EQUIPMENT, BOXES, ETC.). CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL WORK NECESSARY, NOT OTHERWISE INDICATED, AT NO ADDITIONAL COST TO OWNER. NOTIFY EOR, PRIOR TO BIDDING, WHERE EXISTING CONDITIONS REQUIRE ELECTRICAL WORK NOT OTHERWISE INDICATED.

GENERAL NOTES

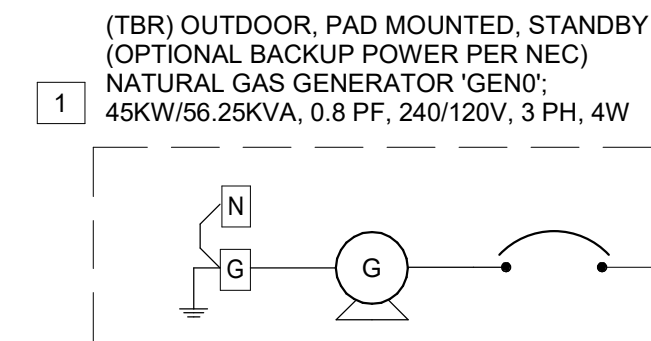
- SHADED LINES INDICATE EXISTING ELECTRICAL TO REMAIN UON.
- HEAVY AND XD LINES INDICATE EXISTING ELECTRICAL TO BE REMOVED UON.
- HEAVY LINES INDICATE NEW ELECTRICAL TO BE INSTALLED UON.
- MINIMIZE OUTAGES TO EXISTING POWER DISTRIBUTION SYSTEM. PROVIDE OWNER A MINIMUM OF TEN (10) WORKING DAYS OF ADVANCED NOTICE OF PLANNED OUTAGES. PROVIDE TEMPORARY POWER AS NECESSARY DURING PLANNED OUTAGES.
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- USE GALVANIZED RIGID CONDUIT SLEEVES UNDER PAVED TRAFFIC ROADWAYS/PARKING LOT AREAS AND 5'-0" BEYOND THESE AREAS.
- CONDUIT ROUTINGS INDICATED ARE DIAGRAMMATIC. FIELD TRACE AND DETERMINE ALL ROUTINGS PRIOR TO CONSTRUCTION. WHERE NECESSARY, USE HAND DIGGING TO MINIMIZE OUTAGES TO EXISTING UNDERGROUND.
- CONTRACTOR SHALL PATCH AND REPAIR ALL SURFACES DISTURBED TO MATCH EXISTING UNLESS OTHERWISE NOTED. WHERE POSSIBLE, COORDINATE UNDERGROUND ROUTINGS TO MINIMIZE PATCH AND REPAIR WORK. CONTRACTOR SHALL FIELD COORDINATE EXACT CONDUIT ROUTINGS PRIOR TO CONSTRUCTION TO AVOID UNDERGROUND UTILITIES, OBSTRUCTIONS, OR OTHER OBSTACLES REQUIRED TO MINIMIZE ELECTRICAL OUTAGES.

KEYNOTES

- 262610 PROVIDE (N) PANELBOARD AND MOUNT IN THE SAME LOCATION AS THE EXISTING PANELBOARD TO BE REMOVED (REFER TO DRAWING III-E1.0 FOR EXISTING PANELBOARD TO BE REMOVED). RECONNECT EXISTING BRANCH CIRCUIT CABLE/CONDUIT(S) TO (N) PANELBOARD. REFER TO DRAWING III-E2.2 FOR ADDITIONAL REQUIREMENTS.
- 262612 MOUNT (N) SWITCHBOARD 'SWBD' ON CONCRETE HOUSEKEEPING PAD. REFER TO DETAIL #3 THIS DRAWING FOR CONCRETE HOUSEKEEPING PAD INSTALLATION DETAIL.
- 262613 PROVIDE OUTDOOR NATURAL GAS GENERATOR 'GEN1'. MOUNT ON CONCRETE EQUIPMENT PAD. FOR CONCRETE EQUIPMENT PAD DETAIL, REFER TO DETAIL #3 THIS DRAWING. FIELD COORDINATE/VERIFY EXACT LOCATION FOR GENSET/EQUIPMENT PAD WITH OWNER'S CONSTRUCTION REPRESENTATIVE, PRIOR TO CONSTRUCTION. GENERATOR SHALL BE INSTALLED A MINIMUM 5'-0" FROM THE EXISTING BUILDING. FOR ADDITIONAL GENERATOR REQUIREMENTS, REFER TO ONE-LINE DIAGRAM ON DRAWING III-E2.1.
- 262619 PROVIDE 18" THICK X 112.9"WIDE X 268" LONG CONCRETE PAD (F'C = 4000 PSI) REINFORCED WITH #5 BARS SPACED @ 9" O.C. (TOP AND BOTTOM) OVER 6" THICK COMPACTED AGGREGATE BASE. SET TOP OF SLAB 6" ABOVE FINISH GRADE. VERIFY WITH GENERATOR VENDOR FOR DIMENSIONS AND REQUIREMENTS PRIOR TO INSTALL.
- 262621 PROVIDE OUTDOOR AUTOMATIC TRANSFER SWITCH 'ATS1'. MOUNT ON CONCRETE EQUIPMENT PAD. FOR CONCRETE EQUIPMENT PAD DETAIL, REFER TO DETAIL #3 THIS DRAWING. FIELD COORDINATE/VERIFY EXACT LOCATION FOR AUTOMATIC TRANSFER SWITCH/EQUIPMENT PAD WITH OWNER'S CONSTRUCTION REPRESENTATIVE, PRIOR TO CONSTRUCTION. FOR ADDITIONAL AUTOMATIC TRANSFER SWITCH REQUIREMENTS, REFER TO RISER DIAGRAM ON DRAWING III-E2.1.
- 262622 PROVIDE COUNTERPOISE GROUNDING ELECTRODE SYSTEM WITH TWO (2) 5/8" DIA. X 10'-0"L COPPER CLAD GROUNDING ELECTRODE RODS. BOND TO GENERATOR GROUND LUG (INSIDE GENERATOR HOUSING). BOND TO GENSET ENCLOSURE FRAME IN A MINIMUM OF TWO (2) LOCATIONS. USE EXOTHERMIC WELDS UON.
- 262629 PROVIDE #3/0 BARE COPPER GROUNDING ELECTRODE CABLE. DIRECT BURY A MINIMUM 30" BFG PER NEC.
- 262630 PROVIDE EXOTHERMIC WELD FOR GROUNDING ELECTRODE CABLE JOINTS.

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DRAWING NUMBER	III-E1.1	ELECTRICAL	PROJECT NUMBER	2142-7258-09	DATE	08/13/24	REVISION	NO.	1	ADDENDUM #1	DATE	08/13/24	DRAWN: J.B.	CHKD: J.H.	DESIGNED: J. BUANI	APPRVD: J. HAINES	DATE: 06-04-2024	PROJECT NUMBER	2142-7258-09	CITY OF LIVONIA	GENERATOR REPLACEMENTS	ELECTRICAL PLANS (FIRE STATION #6) - INSTALLATION	LIVONIA	MICHIGAN



1 ONE-LINE DIAGRAM (FIRE STATION #6) - REMOVE
SCALE: NTS

DRAWINGS ARE DIAGRAMMATIC. CONTRACTOR SHALL VISIT SITE, PRIOR TO BIDDING, TO FIELD DETERMINE/VERIFY EXISTING CONDITIONS (INCLUDING ALL ACCESSIBLE SPACES, AREAS, SPACES, EQUIPMENT, BOXES, ETC.). CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL WORK NECESSARY, NOT OTHERWISE INDICATED, AT NO ADDITIONAL COST TO OWNER. NOTIFY EOR, PRIOR TO BIDDING, WHERE EXISTING CONDITIONS REQUIRE ELECTRICAL WORK NOT OTHERWISE INDICATED.

GENERAL NOTES

- A. SHADED LINES INDICATE EXISTING ELECTRICAL TO REMAIN UON.
- B. HEAVY AND DASHED LINES INDICATE EXISTING ELECTRICAL TO BE REMOVED UON.
- C. HEAVY LINES INDICATE NEW ELECTRICAL TO BE INSTALLED UON.
- D. MINIMIZE OUTAGES TO EXISTING POWER DISTRIBUTION SYSTEM. PROVIDE OWNER A MINIMUM OF TEN (10) WORKING DAYS OF ADVANCED NOTICE OF PLANNED OUTAGES. PROVIDE TEMPORARY POWER AS NECESSARY DURING PLANNED OUTAGES.
- E. CONTRACTOR SHALL FIELD DETERMINE SEQUENCE OF CONSTRUCTION TO MINIMIZE OUTAGES TO EXISTING POWER DISTRIBUTION SYSTEM. PROVIDE TEMPORARY POWER AS NECESSARY DURING PLANNED OUTAGES. SUBMIT SEQUENCE OF CONSTRUCTION, TO OWNER'S CONSTRUCTION REPRESENTATIVE, PRIOR TO CONSTRUCTION, FOR REVIEW/APPROVAL.

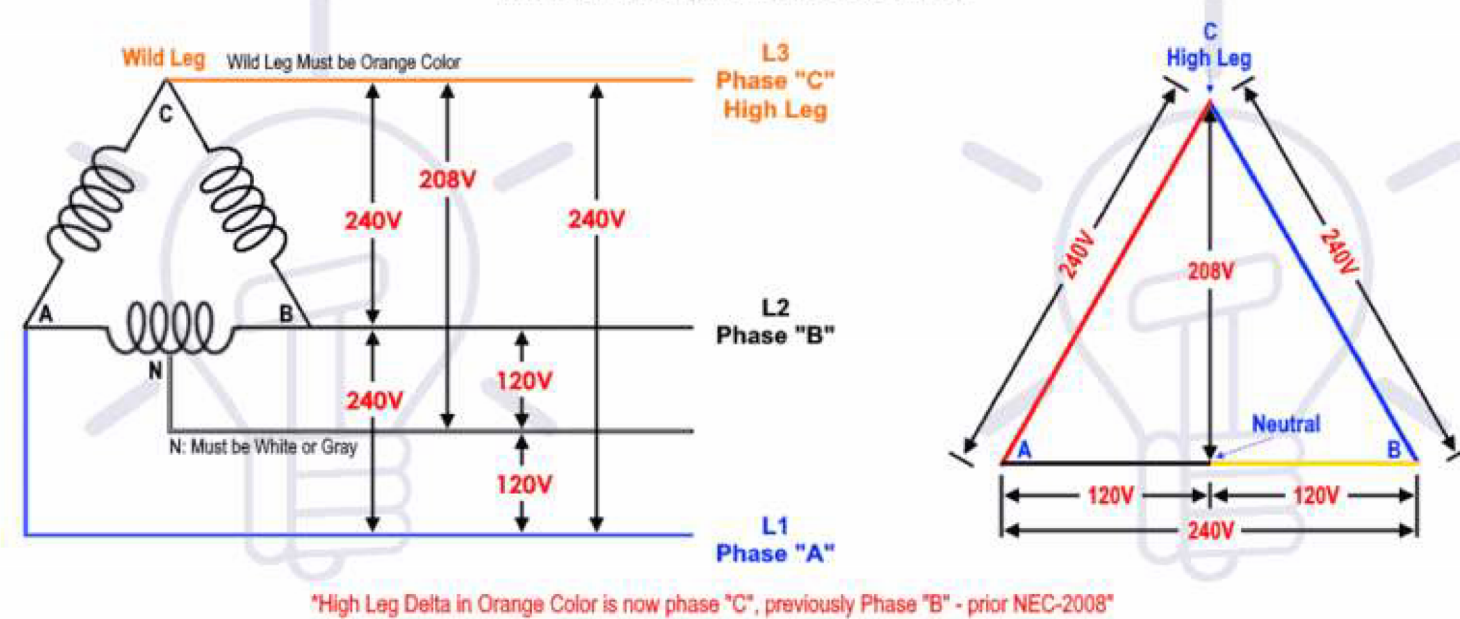
CODED NOTES: ONE-LINE #

1. (E) GENERATOR 'GEN0' TO BE REMOVED. REMOVE ASSOCIATED ELECTRICAL (I.E. CABLE, CONDUIT, SUPPORTS, BOXES, CONNECTED EQUIPMENT PAD, ETC.) COMPLETE UON. UNDERGROUND CONDUIT SEGMENT(S) MAY BE ABANDONED IN PLACE (FOR SEGMENTS A MINIMUM 12" BFG). CAP ENDS OF ABANDONED CONDUIT(S) AND LABEL AS "ABANDONED". NEW GENERATOR 'GEN1' TO BE INSTALLED OUTDOORS IN AN ADJACENT LOCATION UON; REFER TO DRAWING IIIE2.2.
2. REMOVE (E) FEEDER CABLE. EXISTING CONDUIT(S) MAY REMAIN FOR RE-USE; IF EXISTING CONDITION OF CONDUIT(S) IS SUITABLE FOR RE-USE, FIELD DETERMINE EXISTING CONDITION PRIOR TO CONSTRUCTION. NOTIFY EOR WHERE CONDUIT(S) ARE NOT OTHERWISE SUITABLE FOR RE-USE). NEW FEEDER CABLEING TO BE INSTALLED IN CONDUIT(S); REFER TO DRAWING IIIE2.2. CLEAN, DEGREASE, AND DE-BURR RACEWAY(S) PRIOR TO RE-USE.
3. REMOVE (E) FEEDER CABLE. EXISTING CONDUIT(S) TO REMAIN FOR RE-USE. NEW FEEDER CABLEING TO BE INSTALLED IN CONDUIT(S); REFER TO DRAWING IIIE2.2. CLEAN, DEGREASE, AND DE-BURR RACEWAY(S) PRIOR TO RE-USE.
4. EXISTING PANELBOARD TO BE REMOVED. REMOVE FEEDER CABLEING COMPLETE BACK TO TO (E) SWITCHBOARD "MSB". EXISTING CONDUIT(S) TO REMAIN FOR RE-USE FOR NEW FEEDER CABLEING TO BE INSTALLED IN CONDUIT(S); REFER TO DRAWING IIIE2.2. CLEAN, DEGREASE, AND DE-BURR RACEWAY(S) PRIOR TO RE-USE.
5. (E) AUTOMATIC TRANSFER SWITCH "ATS0" TO BE REMOVED COMPLETE. REMOVE ASSOCIATED ELECTRICAL (I.E. CABLE, CONDUIT, SUPPORTS, BOXES, ETC.) COMPLETE BACK TO POWER/SIGNAL SOURCE.
6. (E) SWITCHBOARD "MSWB0D" TO BE REMOVED. REMOVE ASSOCIATED ELECTRICAL (I.E. CABLE, SUPPORTS, BOXES, ETC.) COMPLETE BACK TO POWER SOURCE UON. EXISTING CONDUIT(S) TO REMAIN FOR RE-USE FOR NEW FEEDER CABLEING TO BE INSTALLED IN CONDUIT(S); REFER TO DRAWING IIIE2.2. CLEAN, DEGREASE, AND DE-BURR RACEWAY(S) PRIOR TO RE-USE. NEW SWITCHBOARD "SWBD1" TO BE INSTALLED IN SAME LOCATION AS "SWBD0". REFER TO DRAWING IIIE2.2.
7. REMOVE (E) FEEDER CABLE. EXISTING CONDUIT(S) TO REMAIN FOR RE-USE; IF EXISTING CONDITION OF CONDUIT(S) IS SUITABLE FOR RE-USE, FIELD DETERMINE EXISTING CONDITION PRIOR TO CONSTRUCTION. NOTIFY EOR WHERE CONDUIT(S) ARE NOT OTHERWISE SUITABLE FOR RE-USE). NEW FEEDER CABLEING TO BE INSTALLED IN CONDUIT(S); REFER TO DRAWING IIIE2.2. CLEAN, DEGREASE, AND DE-BURR RACEWAY(S) PRIOR TO RE-USE. (E) UNDERGROUND CONDUIT SEGMENT(S), NOT OTHERWISE SUITABLE FOR RE-USE, MAY BE ABANDONED IN PLACE (FOR SEGMENTS A MINIMUM 12" BFG). CAP ENDS OF ABANDONED CONDUIT(S) AND LABEL AS "ABANDONED".

DRAWING NUMBER	LIVONIA	MICHIGAN	DRAWN: J.B.	CHK'D: J.H.	NO.	REVISION	DATE
			DESIGNED: J. BIANI		1	ADDENDUM #1	09/15/24
11-E2.1	CITY OF LIVONIA GENERATOR REPLACEMENTS	ONE-LINE DIAGRAM (FIRE STATION #6)	APPROVD: J. HAINES				
			DATE: 06-04-2024				
			PROJECT NUMBER				
			2142-7258-09				
ELECTRICAL							

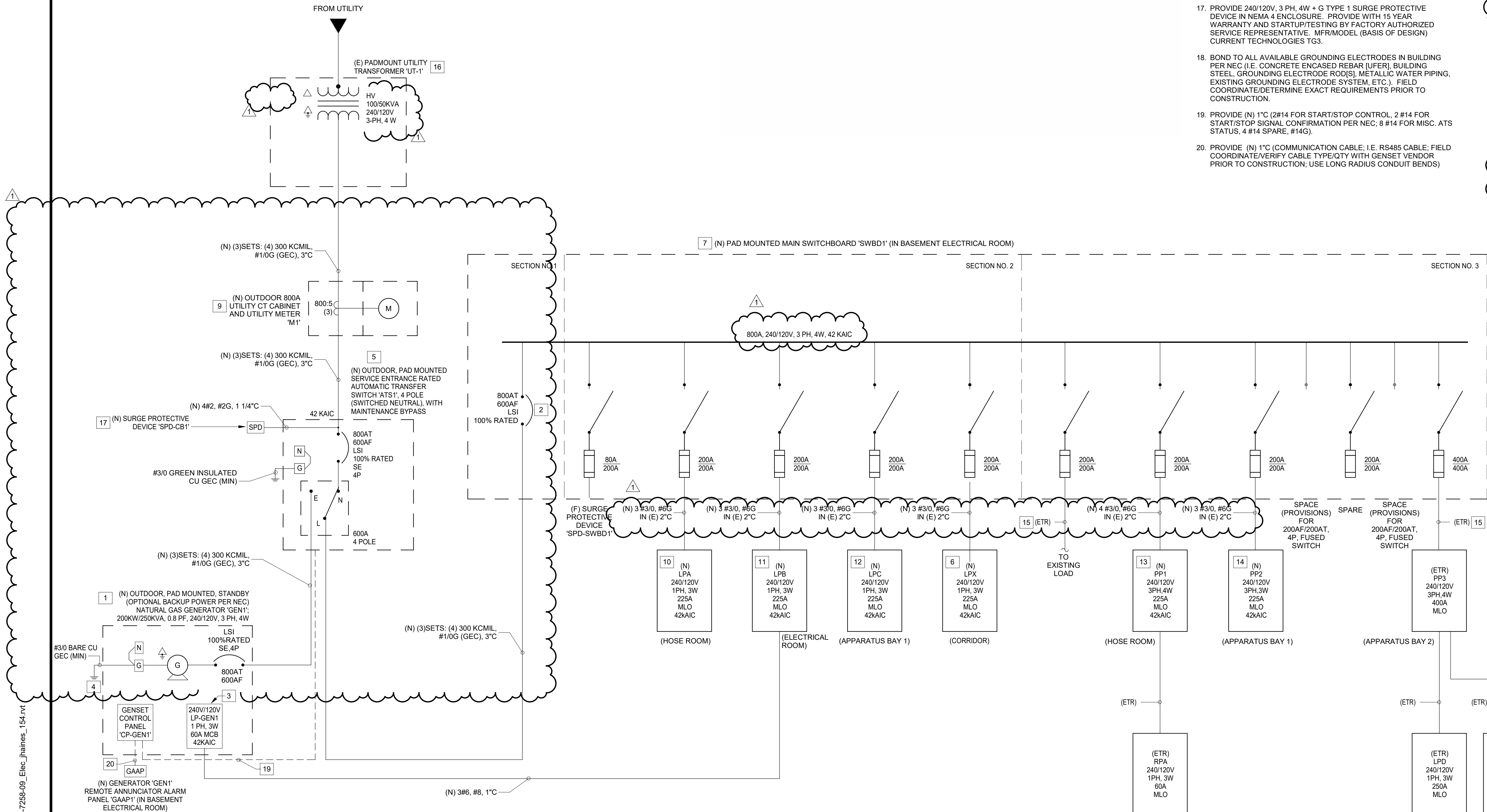
High Leg Delta - 120V, 208V & 240V Configurations

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**240/120, 3 PH, 4W, HIGH LEG DELTA WIRING
CONFIGURATION DETAIL**

SCALE: N.T.S.



**ONE-LINE DIAGRAM (FIRE STATION #6) -
INSTALLATION**

SCALE: N.T.S.

DRAWINGS ARE DIAGRAMMATIC. CONTRACTOR SHALL VISIT SITE, PRIOR TO BIDDING, TO FIELD DETERMINE/VERIFY EXISTING CONDITIONS (INCLUDING ALL ACCESSIBLE SPACES, AREAS, SPACES, EQUIPMENT, BOXES, ETC.). CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL WORK NECESSARY, NOT OTHERWISE INDICATED, AT NO ADDITIONAL COST TO OWNER. NOTIFY EOR, PRIOR TO BIDDING, WHERE EXISTING CONDITIONS REQUIRE ELECTRICAL WORK NOT OTHERWISE INDICATED.

GENERAL NOTES

- A. SHADED LINES INDICATE EXISTING ELECTRICAL TO REMAIN UON.
- B. REMOVE AND DASHED LINES INDICATE EXISTING ELECTRICAL TO BE REMOVED UON.
- C. HEAVY LINES INDICATE NEW ELECTRICAL TO BE INSTALLED UON.
- D. MINIMIZE OUTAGES TO EXISTING POWER DISTRIBUTION SYSTEM PROVIDE OWNER A MINIMUM OF TEN (10) WORKING DAYS OF ADVANCED NOTICE OF PLANNED OUTAGES. PROVIDE TEMPORARY POWER AS NECESSARY DURING PLANNED OUTAGES.
- E. CONTRACTOR SHALL FIELD DETERMINE SEQUENCE OF CONSTRUCTION TO MINIMIZE OUTAGES TO EXISTING POWER DISTRIBUTION SYSTEM. PROVIDE TEMPORARY POWER AS NECESSARY DURING PLANNED OUTAGES. SUBMIT SEQUENCE OF CONSTRUCTION TO OWNER'S CONSTRUCTION REPRESENTATIVE, PRIOR TO CONSTRUCTION, FOR REVIEW/APPROVAL.

CODED NOTES: ONE-LINE

- PROVIDE OUTDOOR, PADMOUNTED, STANDBY RATED, NATURAL GAS GENERATOR 'GEN1' (FOR BACKUP 'OPTIONAL' POWER PER NEC). MFR/MODEL (BASIS OF DESIGN): NEMA/GENN ASCG200 120/240V, 3Ø 200KW IN NEMA-3R, LEVEL 3 SOUND ATTENUATED ENCLOSURE OR APPROVED EQUIV. PROVIDE WITH EXTENDED TWO (2) YEAR WARRANTY. LOCATE (N) 'GEN1' IN SAME LOCATION AS REMOVED GENERATOR 'GEN0'. PROVIDE 600A, 100% RATED GROUND FAULT INDICATION OUTPUT BREAKER, GENERATOR AND ACCESSORIES SHALL BE PROVIDED BY CONTRACTOR. COORDINATE EXACT LOCATION WITH OWNER. COORDINATE NATURAL GAS CONNECTION WITH LOCAL UTILITY COMPANY. VERIFY PAD REQUIREMENTS PRIOR TO INSTALL.
2. NOT USED
3. LOAD CENTER PANELBOARD 'LP-GEN1' SHALL BE PROVIDED INTEGRAL WITH 'GENERATOR GEN1'. GENERATOR MANUFACTURER SHALL FURNISH PRE-WIRE GENERATOR APPURTENANCES TO THE LOAD CENTER PANELBOARD INCLUDING BUT NOT LIMITED TO, BATTERY CHARGER, BATTERY TRAY HEATER, ALTERNATOR WINDINGS ANT-CONDENSATE HEATER/STAT, JACKET WATER HEATER/STAT, CONVENIENCE RECEPTACLE(S), A/C LIGHTS, ALTERNATOR WINDINGS ANT-CONDENSATE HEATER/STAT, AND BLOCK HEATER.
4. PROVIDE: COUNTERPOISE GROUNDING ELECTRODE SYSTEM WITH TWO (2) 5/8" DIA X 10'-0" LUG CLAD GROUNDING ELECTRODE (E) BOND TO BUILDING GROUNDING ELECTRODE SYSTEM. BOND NEUTRAL AND COPPER IN GENERATOR HOUSING. GENERATOR IS SEPARATELY IDENTIFIED SOURCE.
5. PROVIDE OUTDOOR, PAD MOUNTED, 120/240V, 3 PH, 4 POLE, 600A, OPEN-TRANSITION AUTOMATIC TRANSFER SWITCH 'ATS1' IN NEMA 3R CABINET. PROVIDE 100% RATED SERVICE ENTRANCE RATED SWITCH. PROVIDE WITH EXTENDED FIVE (5) YEAR WARRANTY. LOCATE (N) 'ATS1' ADJACENT TO REMOVED 'ATS0'.
6. CONTRACTOR SHALL REPLACE EXISTING 200A, 240/120V, 3 PH, 4W PANELBOARD 'LPX' WITH NEW PANELBOARD. INSTALL (N) PANELBOARD IN SAME LOCATION AS EXISTING PANELBOARD TO BE REMOVED. REFER TO DRAWING IIE2-1 FOR EXISTING PANELBOARD TO BE REMOVED. SEE PANELBOARD SCHEDULE FOR ADDITIONAL INFORMATION. RECONNECT (E) CABLING/CONDUIT, FOR (E) BRANCH CIRCUIT(S) TO REMAIN, TO (N) PANELBOARD BRANCH CIRCUIT BREAKER(S).
7. CONTRACTOR SHALL REPLACE EXISTING 1200A, 600A MCB 240/120V, 3 PH, 4W SWITCHBOARD 'SWB0D' WITH NEW MCB, 600A MCB 240/120V, 3 PH, 4W SWITCHBOARD IN SAME LOCATION.
8. NOT USED
9. CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANY FOR EXACT SPECIFICATIONS FOR NEW CT CABINET AND NEW METER. HOUSING TO BE BONDED TO DISCONNECT GROUNDING BAR THROUGH A #10 SUPPLY BONDING JUMPER CONDUIT.
10. CONTRACTOR SHALL REPLACE EXISTING 200A, 240/120V, 1 PH, 3W PANELBOARD 'LP'A WITH NEW PANELBOARD. INSTALL (N) PANELBOARD IN SAME LOCATION AS EXISTING PANELBOARD TO BE REMOVED. REFER TO DRAWING IIE2-1 FOR EXISTING PANELBOARD TO BE REMOVED. SEE PANELBOARD SCHEDULE FOR ADDITIONAL INFORMATION. (E) CABLING/CONDUIT, FOR (E) BRANCH CIRCUIT(S) TO REMAIN, TO (N) PANELBOARD BRANCH CIRCUIT BREAKER(S).
11. CONTRACTOR SHALL REPLACE EXISTING 200A, 240/120V, 1 PH, 3W PANELBOARD 'LP'B WITH NEW PANELBOARD. INSTALL (N) PANELBOARD IN SAME LOCATION AS EXISTING PANELBOARD TO BE REMOVED. REFER TO DRAWING IIE2-1 FOR EXISTING PANELBOARD TO BE REMOVED. SEE PANEL SCHEDULE FOR ADDITIONAL INFORMATION. (E) CABLING/CONDUIT, FOR (E) BRANCH CIRCUIT(S) TO REMAIN, TO (N) PANELBOARD BRANCH CIRCUIT BREAKER(S). CONTRACTOR TO VERIFY CAPACITY OF PANEL PRIOR TO SUB-FEEDING NEW GENERATOR SUB-PANEL.

SECTION 087100
DOOR HARDWARE - DORMAKABA GROUP

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Hardware for fire-rated doors.

1.02 RELATED REQUIREMENTS

1.03 REFERENCE STANDARDS

- A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.
- B. BHMA A156.2 - Bored and Preamsembled Locks and Latches; 2022.
- C. BHMA A156.115 - Hardware Preparation in Steel Doors and Steel Frames; 2016.
- D. BHMA A156.115W - Hardware Preparation in Wood Doors with Wood or Steel Frames; 2006.
- E. DHI (H&S) - Sequence and Format for the Hardware Schedule; 2019.
- F. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.
- G. ITS (DIR) - Directory of Listed Products; Current Edition.
- H. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2022.
- I. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies; 2022.
- J. UL (DIR) - Online Certifications Directory; Current Edition.
- K. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.
- L. UL 1784 - Standard for Air Leakage Tests of Door Assemblies; Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate the manufacture, fabrication, and installation of products that door hardware is installed on.
- B. Sequence installation to ensure facility services connections are achieved in an orderly and expeditious manner.
- C. Preinstallation Meeting: Convene a preinstallation meeting one week prior to commencing work of this section; require attendance by affected installers and the following:
 - 1. Architect.
 - 2. Installer's Architectural Hardware Consultant (AHC).
 - 3. Hardware Installer.
 - 4. Owner's Security Consultant.
- D. Furnish templates for door and frame preparation to manufacturers and fabricators of products requiring internal reinforcement for door hardware.
- E. Keying Requirements Meeting:
 - 1. Attendance Required:
 - 2. Agenda:
 - a. Establish keying requirements.
 - b. Verify locksets and locking hardware are functionally correct for project requirements.
 - c. Verify that keying and programming complies with project requirements.
 - d. Establish keying submittal schedule and update requirements.
 - 3. Incorporate "Keying Requirements Meeting" decisions into keying submittal upon review of door hardware keying system including, but not limited to, the following:
 - 4. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.
 - 5. Deliver established keying requirements to manufacturers.

1.05 SUBMITTALS

- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Product Data: Manufacturer's catalog literature for each type of hardware, marked to clearly show products to be furnished for this project, and includes construction details, material descriptions, finishes, and dimensions and profiles of individual components.
- C. Shop Drawings - Door Hardware Schedule: A detailed listing that includes each item of hardware to be installed on each door.
 - 1. Prepared by or under supervision of Architectural Hardware Consultant (AHC).
 - 2. Comply with DHI (H&S) using door numbering scheme and hardware set numbers as indicated in Contract Documents.
 - a. Submit in vertical format.
 - 3. Include complete description for each door listed.
- D. Shop Drawings - Electrified Door Hardware: Include diagrams for power, signal, and control wiring for electrified door hardware that include details of interface with building safety and security systems. Provide elevations and diagrams for each electrified door opening as follows:
 - 1. Prepared by or under supervision of Architectural Hardware Consultant (AHC) and Electrified Hardware Consultant (EHC).
 - 2. Elevations: Include front and back elevations of each door opening showing electrified devices with connections installed and an operations narrative describing how opening operates from either side at any given time.
 - 3. Diagrams: Include point-to-point wiring diagrams that show each device in door opening system with related colored wire connections to each device.
- E. Samples for Verification:
 - 1. Submit minimum size of 2 by 4 inch (51 by 102 mm) for sheet samples, and minimum length of 4 inch (102 mm) for other products.
 - 2. Submit one (1) sample of hinge, latchset, lockset, closer, and _____ illustrating style, color, and finish.
 - 3. Include product description with samples.
- F. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.
- G. Manufacturer's qualification statement.
- H. Installer's qualification statement.
- I. Supplier's qualification statement.
- J. Maintenance Data: Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.
- K. Keying Schedule:
 - 1. Submit three (3) copies of Keying Schedule in compliance with requirements established during Keying Requirements Meeting unless otherwise indicated.
- L. Warranty: Submit manufacturer's warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.
- M. Project Record Documents: Record actual locations of concealed equipment, services, and conduit.
- N. Maintenance Materials and Tools: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 016000 - Product Requirements, for additional provisions.

1.06 QUALITY ASSURANCE

- A. Standards for Fire-Rated Doors: Maintain one copy of each referenced standard on site, for use by Architect and Contractor.

- B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years of documented experience.
- C. Installer Qualifications: Company specializing in performing work of the type specified for commercial door hardware with at least three years of documented experience.
- D. Supplier Qualifications: Company with certified Architectural Hardware Consultant (AHC) and Electrified Hardware Consultant (EHC) to assist in work of this section.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Package hardware items individually; label and identify each package with door opening code to match door hardware schedule.

1.08 WARRANTY

- A. See Section 017800 - Closeout Submittals for additional warranty requirements.
- B. Manufacturer Warranty: Provide manufacturer warranty against defects in material and workmanship for period indicated, from Date of Substantial Completion. Complete forms in Owner's name and register with manufacturer.
 - 1. Locksets and Cylinders: Three years, minimum.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Provide specified door hardware as required to make doors fully functional, compliant with applicable codes, and secure to extent indicated.
- B. Provide individual items of single type, of same model, and by same manufacturer.
- C. Fasteners:
 - 1. Provide fasteners of proper type, size, quantity, and finish that comply with commercially recognized standards for proposed applications.
 - a. Aluminum fasteners are not permitted.
 - b. Provide phillips flat-head screws with heads finished to match door surface hardware unless otherwise indicated.
 - 2. Provide machine screws for attachment to reinforced hollow metal and aluminum frames.
 - a. Self-drilling (Tek) type screws are not permitted.
 - 3. Provide stainless steel machine screws and lead expansion shields for concrete and masonry substrates.
 - 4. Provide wall grip inserts for hollow wall construction.
 - 5. Fire-Resistance-Rated Applications: Comply with NFPA 80.
 - a. Provide wood or machine screws for hinges mortised to doors or frames, strike plates to frames, and closers to doors and frames.
 - b. Provide steel through bolts for attachment of surface mounted closers, hinges, or exit devices to door panels unless proper door blocking is provided.

2.02 PERFORMANCE REQUIREMENTS

- A. Provide door hardware products that comply with the following requirements:
 - 1. Applicable provisions of federal, state, and local codes.
 - 2. Accessibility: ADA Standards and ICC A117.1.
 - 3. Fire-Resistance-Rated Doors: NFPA 80, listed and labeled by qualified testing agency for fire protection ratings indicated, based on testing at positive pressure in accordance with NFPA 252 or UL 10C.
 - 4. Hardware on Fire-Resistance-Rated Doors: Listed and classified by UL (DIR), ITS (DIR), testing firm acceptable to authorities having jurisdiction, or _____ as suitable for application indicated.
 - 5. Hardware for Smoke and Draft Control Doors (Indicated as "S" on Drawings): Provide door hardware that complies with local codes, and requirements of assemblies tested in accordance with UL 1784.
 - 6. Hardware Preparation for Steel Doors and Steel Frames: BHMA A156.115.

7. Hardware Preparation for Wood Doors with Wood or Steel Frames: BHMA A156.115W.
8. Products Requiring Electrical Connection: Listed and classified by UL (DIR) as suitable for the purpose specified.

2.03 CYLINDRICAL LOCKS

- A. Manufacturers:
- B. Properties:
 1. Mechanical Locks:
 - a. Fitting modified ANSI A115.2 door preparation.
 - b. Door Thickness Fit: 1-3/8 inches (35 mm) to 2-1/4 inches (57 mm) thick doors.
 - c. Construction: Hub, side plate, shrouded rose, locking pin to be a one-piece casting with a shrouded locking lug.
 - 1) Through-bolted anti-rotational studs.
 - d. Bored Hole: 2-1/8 inch (54 mm) diameter.
 - e. Backset: 5 inches (127 mm) unless otherwise indicated.
 - f. Latch: Single piece tail-piece construction.
 - 1) Latchbolt Throw: 1/2 inch (12.7 mm), minimum.
 - g. Cylinders:
 - 1) Cylinder Core Types: Locks capable of supporting manufacturers' cores, as applicable.
 - h. Lever Trim:
 - 1) Style: See Door Hardware Schedule.
 - 2) Outside Lever Sleeve: Seamless one-piece construction.
- C. Finishes: See Door Hardware Schedule.
 1. Core Faces: Match finish of lockset.
- D. Grades: Comply with BHMA A156.2, Grade 1.
- E. Material: Manufacturer's standard for specified lock.
- F. Options:
- G. Products: Cylindrical locks, including mechanical types.

2.04 MECHANICAL PUSH BUTTON LOCKS

- A. Manufacturers:
 1. dormakaba; dormakaba Group: www.dormakaba.com/us-en/#sle.
- B. Properties:
 1. Standard Locks:
 - a. Fitting modified ANSI A161 door preparation with additional through holes.
 - b. Construction: Extra heavy-duty solid cast housings, unified trim plate, with fixed cast lever.
 - c. Operation Modes:
 - 1) Pushbutton access.
 - d. Latches: Manufacturer's standard.
 - 1) Throw: 1/2 inch (13 mm) or 3/4 inch (19 mm), minimum.
 - e. Auxiliary Deadlatch: One piece stainless steel, permanently lubricated.
 - f. Backset: 2-3/8 inches (60 mm) unless otherwise indicated.
 - g. Access Control:
 - 1) Numeric Keypad Pushbuttons: Manufacturer's standard, solid metal, vandal-resistant construction.
 - 2) Functionality: Outside access by combination, free egress from inside.
 - 3) Number of Codes: Single access.
 - 4) Programming: Via keypad, not requiring removal of lock.
 - h. Durability: Weather-resistant model.
 - i. Type: Large format interchangeable core.

- C. Grades:
 - 1. Comply with DOD 5220.22M requirements for supplemental access control.
 - 2. Provide UL/ULC latch listed for use on fire rated doors up to 3 hours.
- D. Products (Simplex Series):
 - 1. L1000.

END OF SECTION

SECTION 263213.16 - GAS-ENGINE-DRIVEN GENERATOR SETS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Gas-engine-driven generator sets.
2. Gas engine.
3. Gas fuel system.
4. Control and monitoring.
5. Generator overcurrent and fault protection.
6. Generator, exciter, and voltage regulator.
7. Load bank.
8. Outdoor generator-set enclosure.
9. Remote radiator motors.
10. Vibration isolation devices.

B. Related Requirements:

1. Section 263600 "Transfer Switches" for transfer switches including sensors and relays to initiate automatic-starting and -stopping signals for engine generators.

1.2 DEFINITIONS

- A. EPS: Emergency power supply.
- B. EPSS: Emergency power supply system.
- C. LP: Liquefied petroleum.
- D. Operational Bandwidth: The total variation from the lowest to highest value of a parameter over the range of conditions indicated, expressed as a percentage of the nominal value of the parameter.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
2. Include thermal damage curve for generator.
3. Include time-current characteristic curves for generator protective device.
4. Include fuel consumption in cubic feet per hour (cubic meters per hour) at 0.8 power factor at 0.5, 0.75 and 1.0 times generator capacity.

5. Include generator efficiency at 0.8 power factor at 0.5, 0.75, and 1.0 times generator capacity.
6. Include air flow requirements for cooling and combustion air in cfm at 0.8 power factor, with air supply temperature of 95 deg F, 80 deg F, 70 deg F, and 50 deg F. Provide drawings showing requirements and limitations for location of air intake and exhausts.
7. Include generator characteristics, including, but not limited to, kilowatt rating, efficiency, reactances, and short-circuit current capability.

B. Shop Drawings:

1. Include plans and elevations for engine generator and other components specified.
2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
3. Identify fluid drain ports and clearance requirements for proper fluid drain.
4. Design calculations for selecting vibration isolators and seismic restraints and for designing vibration isolation bases.
5. Vibration Isolation Base Details: Detail fabrication including anchorages and attachments to structure and to supported equipment. Include base weights.
6. Include diagrams for power, signal, and control wiring. Complete schematic, wiring, and interconnection diagrams showing terminal markings for EPS equipment and functional relationship between all electrical components.

1.4 INFORMATIONAL SUBMITTALS

A. Source Quality-Control Reports: Including, but not limited to, the following:

1. Certified summary of prototype-unit test report.
2. Certified Test Reports: For components and accessories that are equivalent, but not identical, to those tested on prototype unit.
3. Certified Summary of Performance Tests: Certify compliance with specified requirement to meet performance criteria for sensitive loads.
4. Report of factory test on units to be shipped for this Project, showing evidence of compliance with specified requirements.
5. Report of sound generation.
6. Report of exhaust emissions showing compliance with applicable regulations.

B. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For engine generators to include in emergency, operation, and maintenance manuals.

1. In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:

- a. List of tools and replacement items recommended to be stored at Project for ready access. Include part and drawing numbers, current unit prices, and source of supply.
- b. Operating instructions laminated and mounted adjacent to generator location.
- c. Training plan.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 1. Fuses: One for every 10 of each type and rating, but no fewer than one of each.
 2. Indicator Lamps: Two for every six of each type used, but no fewer than two of each.
 3. Filters: One set each of lubricating oil, fuel, and combustion-air filters.
 4. Tools: Each tool listed by part number in operations and maintenance manual.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.
- B. Testing Agency Qualifications: Accredited by NETA.
 1. Testing Agency's Field Supervisor: Certified by NETA to supervise on-site testing.

1.8 WARRANTY

- A. Manufacturer's Warranty: Manufacturer agrees to repair or replace components of packaged engine generators and associated auxiliary components that fail in materials or workmanship within specified warranty period.
 1. Warranty Period: 3 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 GAS-ENGINE-DRIVEN GENERATOR SETS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 1. Caterpillar, Inc.; Electric Power Division.
 2. Cummins Power Generation.
 3. GE Power; General Electric Company.
 4. Generac.
 5. Hipower Systems.
 6. Kohler Power Systems.

7. [Rolls-Royce Solutions America Inc.](#)

- B. Source Limitations: Obtain packaged engine generators and auxiliary components through one source from a single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. B11 Compliance: Comply with B11.19.
- B. NFPA Compliance:
1. Comply with NFPA 37.
 2. Comply with NFPA 70.
 3. Comply with NFPA 110 requirements for Level 1 EPSS.
- C. UL Compliance: Comply with UL 2200.
- D. Engine Exhaust Emissions: Comply with EPA Tier 3 requirements and applicable state and local government requirements.
- E. Noise Emission: Comply with applicable state and local government requirements for maximum noise level at adjacent property boundaries due to sound emitted by engine generator including engine, engine exhaust, engine cooling-air intake and discharge, and other components of installation.
- F. Environmental Conditions: Engine generator system shall withstand the following environmental conditions without mechanical or electrical damage or degradation of performance capability:
1. Ambient Temperature: 5 to 104 deg F.
 2. Altitude: Sea level to 1000 feet.

2.3 ENGINE GENERATOR ASSEMBLY DESCRIPTION

- A. Factory-assembled and -tested, water-cooled engine, with brushless generator and accessories.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a testing agency acceptable to authorities having jurisdiction, and marked for intended location and use.
- C. Power Rating: Standby.
- D. Overload Capacity: 110 percent of service load for 1 hour in 12 consecutive hours.
- E. EPSS Class: Engine generator shall be classified as Class 6 according to NFPA 110.
- F. Service Load: REFER TO SINGLE LINE DIAGRAM kVA.
- G. Power Factor: 0.8, lagging.

- H. Frequency: 60 Hz.
- I. Voltage: REFER TO SINGLE LINE DIAGRAM.
- J. Phase: Three-phase, four wire, wye (208v service) or delta (240v service) (refer to single line diagram).
- K. Induction Method: Naturally aspirated.
- L. Governor: Adjustable isochronous, with speed sensing.
- M. Mounting Frame: Structural steel framework to maintain alignment of mounted components without depending on concrete foundation. Provide lifting attachments sized and spaced to prevent deflection of base during lifting and moving.
 - 1. Rigging Diagram: Inscribed on metal plate permanently attached to mounting frame to indicate location and lifting capacity of each lifting attachment and generator-set center of gravity.
- N. Capacities and Characteristics:
 - 1. Power Output Ratings: Nominal ratings as indicated at 0.8 power factor excluding power required for the continued and repeated operation of the unit and auxiliaries.
 - 2. Nameplates: For each major system component to identify manufacturer's name and address, and model and serial number of component.
- O. Engine Generator Performance:
 - 1. Steady-State Voltage Operational Bandwidth: 3 percent of rated output voltage from no load to full load.
 - 2. Transient Voltage Performance: Not more than 20 percent variation for 50 percent step-load increase or decrease. Voltage shall recover and remain within the steady-state operating band within three seconds.
 - 3. Steady-State Frequency Operational Bandwidth: 0.5 percent of rated frequency from no load to full load.
 - 4. Steady-State Frequency Stability: When system is operating at any constant load within the rated load, there shall be no random speed variations outside the steady-state operational band and no hunting or surging of speed.
 - 5. Transient Frequency Performance: Less than 5 percent variation for 50 percent step-load increase or decrease. Frequency shall recover and remain within the steady-state operating band within five seconds.
 - 6. Output Waveform: At no load, harmonic content measured line to line or line to neutral shall not exceed 5 percent total and 3 percent for single harmonics. Telephone influence factor, determined according to NEMA MG 1, shall not exceed 50 percent.
 - 7. Sustained Short-Circuit Current: For a three-phase, bolted short circuit at system output terminals, system shall supply a minimum of 250 percent of rated full-load current for not less than 10 seconds and then clear the fault automatically, without damage to generator system components.
 - 8. Start Time:

- a. Comply with NFPA 110, Type 10 system requirements.

2.4 GAS ENGINE

- A. Fuel: Natural gas.
- B. Rated Engine Speed: 1800 rpm.
- C. Lubrication System: Engine or skid-mounted.
 - 1. Filter and Strainer: Rated to remove 90 percent of particles 5 micrometers and smaller while passing full flow.
 - 2. Thermostatic Control Valve: Control flow in system to maintain optimum oil temperature. Unit shall be capable of full flow and is designed to be fail-safe.
 - 3. Crankcase Drain: Arranged for complete gravity drainage to an easily removable container with no disassembly and without use of pumps, siphons, special tools, or appliances.
- D. Jacket Coolant Heater: Electric-immersion type, factory installed in coolant jacket system. Comply with UL 499 and with NFPA 110 requirements for Level 1 equipment for heater capacity.
- E. Integral Cooling System: Closed loop, liquid cooled, with radiator factory mounted on engine generator mounting frame and integral engine-driven coolant pump.
 - 1. Coolant: Solution of 50 percent ethylene-glycol-based antifreeze and 50 percent water, with anticorrosion additives as recommended by engine manufacturer.
 - 2. Size of Radiator: Adequate to contain expansion of total system coolant from cold start to 110 percent load condition.
 - 3. Expansion Tank: Constructed of welded steel plate and rated to withstand maximum closed-loop coolant system pressure for engine used. Equip with gage glass and petcock.
 - 4. Temperature Control: Self-contained, thermostatic-control valve modulates coolant flow automatically to maintain optimum constant coolant temperature as recommended by engine manufacturer.
 - 5. Coolant Hose: Flexible assembly with inside surface of nonporous rubber and outer covering of aging-, ultraviolet-, and abrasion-resistant fabric.
 - a. Rating: 50-psig maximum working pressure with coolant at 180 deg F, and noncollapsible under vacuum.
 - b. End Fittings: Flanges or steel pipe nipples with clamps to suit piping and equipment connections.
- F. Muffler/Silencer:
 - 1. Critical type, sized as recommended by engine manufacturer and selected with exhaust piping system to not exceed engine manufacturer's engine backpressure requirements.
 - a. Minimum sound attenuation of 25 dB at 500 Hz.
 - b. Sound level measured at a distance of 25 feet from exhaust discharge after installation is complete shall be 78 dBA or less.

- G. Air-Intake Filter: Standard-duty, engine-mounted air cleaner with replaceable dry-filter element and "blocked filter" indicator.
- H. Starting System: 12-V electric, with negative ground.
 - 1. Components: Sized so they are not damaged during a full engine-cranking cycle with ambient temperature at maximum specified in "Performance Requirements" Article.
 - 2. Cranking Motor: Heavy-duty unit that automatically engages and releases from engine flywheel without binding.
 - 3. Cranking Cycle: As required by NFPA 110 for system level specified.
 - 4. Battery: Lead acid, with capacity within ambient temperature range specified in "Performance Requirements" Article to provide specified cranking cycle at least three times without recharging.
 - 5. Battery Cable: Size as recommended by engine manufacturer for cable length indicated. Include required interconnecting conductors and connection accessories.
 - 6. Battery Compartment: Factory fabricated of metal with acid-resistant finish and thermal insulation. Thermostatically controlled heater shall be arranged to maintain battery above 50 deg F regardless of external ambient temperature within range specified in "Performance Requirements" Article. Include accessories required to support and fasten batteries in place. Provide ventilation to exhaust battery gases.
 - 7. Battery Stand: Factory-fabricated, two-tier metal with acid-resistant finish designed to hold the quantity of battery cells required and to maintain the arrangement to minimize lengths of battery interconnections.
 - 8. Battery-Charging Alternator: Factory mounted on engine with solid-state voltage regulation and 35 A minimum continuous rating.
 - 9. Battery Charger: Current-limiting, automatic-equalizing and float-charging type designed for lead-acid batteries. Unit shall comply with UL 1236 and include the following features:
 - a. Operation: Equalizing-charging rate of 10 A shall be initiated automatically after battery has lost charge until an adjustable equalizing voltage is achieved at battery terminals. Unit shall then be automatically switched to a lower float-charging mode and shall continue to operate in that mode until battery is discharged again.
 - b. Automatic Temperature Compensation: Adjust float and equalize voltages for variations in ambient temperature from minus 40 deg F to 140 deg F to prevent overcharging at high temperatures and undercharging at low temperatures.
 - c. Automatic Voltage Regulation: Maintain constant output voltage regardless of input voltage variations up to plus or minus 10 percent.
 - d. Ammeter and Voltmeter: Flush mounted in door. Meters shall indicate charging rates.
 - e. Safety Functions: Sense abnormally low battery voltage and close contacts providing low battery voltage indication on control and monitoring panel. Sense high battery voltage and loss of ac input or dc output of battery charger. Either condition shall close contacts that provide a battery-charger malfunction indication at system control and monitoring panel.
 - f. Enclosure and Mounting: NEMA 250, Type 1, wall-mounted cabinet.

2.5 GAS FUEL SYSTEM

- A. Natural Gas Piping: Comply with requirements in Section 231123 "Facility Natural Gas Piping."
- B. LP Gas Piping: Comply with requirements in Section 231126 "Facility Liquefied-Petroleum Gas Piping."
- C. Gas Train: Comply with NFPA 37.
- D. Engine Fuel System:
 - 1. Vapor-Withdrawal System:
 - a. Carburetor.
 - b. Secondary Gas Regulators: One for each fuel type, with atmospheric vents piped to building exterior.
 - c. Fuel-Shutoff Solenoid Valves: NRTL-listed, normally closed, safety shutoff valves; one for each fuel source.
 - 2. Fuel Filters: One for each fuel type.
 - 3. Manual Fuel Shutoff Valves: One for each fuel type.
 - 4. Flexible Fuel Connectors: Minimum one for each fuel connection.
 - 5. LP gas flow adjusting valve.
 - 6. Fuel change gas pressure switch.

2.6 CONTROL AND MONITORING

- A. Automatic Starting System Sequence of Operation: When mode-selector switch on the control and monitoring panel is in the automatic position, remote-control contacts in one or more separate automatic transfer switches initiate starting and stopping of engine generator. When mode-selector switch is switched to the on position, engine generator starts. The off position of same switch initiates generator-set shutdown. When engine generator is running, specified system or equipment failures or derangements automatically shut down engine generator and initiate alarms.
- B. Provide minimum run time control set for 15 minutes with override only by operation of a remote emergency-stop switch.
- C. Comply with UL 508A.
- D. Configuration:
 - 1. Operating and safety indications, protective devices, basic system controls, and engine gages shall be grouped in a common control and monitoring panel mounted on the engine generator. Mounting method shall isolate the control panel from generator-set vibration. Panel shall be powered from the engine generator battery.
- E. Control and Monitoring Panel:

1. Digital controller with integrated LCD, controls, and microprocessor, capable of local and remote control, monitoring, and programming, with battery backup.
2. Instruments: Located on the control and monitoring panel and viewable during operation.
 - a. Engine lubricating-oil pressure gage.
 - b. Engine-coolant temperature gage.
 - c. DC voltmeter (alternator battery charging).
 - d. Running-time meter.
 - e. AC voltmeter, for each phase.
 - f. AC ammeter, for each phase.
 - g. AC frequency meter.
 - h. Generator-voltage adjusting rheostat.
3. Controls and Protective Devices: Controls, shutdown devices, and common visual alarm indication, including the following:
 - a. Cranking control equipment.
 - b. Run-Off-Auto switch.
 - c. Control switch not in automatic position alarm.
 - d. Overcrank alarm.
 - e. Overcrank shutdown device.
 - f. Low water temperature alarm.
 - g. High engine temperature prealarm.
 - h. High engine temperature.
 - i. High engine temperature shutdown device.
 - j. Overspeed alarm.
 - k. Overspeed shutdown device.
 - l. Low fuel main tank.
 - 1) Low-fuel-level alarm shall be initiated when the level falls below that required for operation for the duration required for the indicated EPSS class.
 - m. Coolant low-level alarm.
 - n. Coolant low-level shutdown device.
 - o. Coolant high-temperature prealarm.
 - p. Coolant high-temperature alarm.
 - q. Coolant low-temperature alarm.
 - r. Coolant high-temperature shutdown device.
 - s. EPS supplying load indicator.
 - t. Battery high-voltage alarm.
 - u. Low cranking voltage alarm.
 - v. Battery-charger malfunction alarm.
 - w. Battery low-voltage alarm.
 - x. Lamp test.
 - y. Contacts for local and remote common alarm.
 - z. Low-starting air pressure alarm.
 - aa. Low-starting hydraulic pressure alarm.
 - bb. Remote manual stop shutdown device.
 - cc. Air shutdown damper alarm when used.
 - dd. Air shutdown damper shutdown device when used.

- ee. Hours of operation.
 - ff. Engine generator metering, including voltage, current, Hz, kW, kVA, and power factor.
 - gg. Generator overcurrent protective device not closed alarm.
- F. Remote Alarm Annunciator: An LED indicator light labeled with proper alarm conditions shall identify each alarm event, and a common audible signal shall sound for each alarm condition. Silencing switch in face of panel shall silence signal without altering visual indication. Connect so that after an alarm is silenced, clearing of initiating condition will reactivate alarm until silencing switch is reset. Cabinet and faceplate are surface- or flush-mounting type to suit mounting conditions indicated.
- 1. Overcrank alarm.
 - 2. Coolant low-temperature alarm.
 - 3. High engine temperature prealarm.
 - 4. High engine temperature alarm.
 - 5. Low lube oil pressure alarm.
 - 6. Overspeed alarm.
 - 7. Low fuel main tank alarm.
 - 8. Low coolant level alarm.
 - 9. Low cranking voltage alarm.
 - 10. Contacts for local and remote common alarm.
 - 11. Audible-alarm silencing switch.
 - 12. Air shutdown damper when used.
 - 13. Run-Off-Auto switch.
 - 14. Control switch not in automatic position alarm.
 - 15. Fuel tank derangement alarm.
 - 16. Fuel tank high-level shutdown of fuel supply alarm.
 - 17. Lamp test.
 - 18. Low cranking voltage alarm.
 - 19. Generator overcurrent protective device not closed.
- G. Remote Emergency-Stop Switch: Flush; wall mounted, unless otherwise indicated; and labeled. Push button shall be protected from accidental operation.
- H. Supporting Items: Include sensors, transducers, terminals, relays, and other devices and include wiring required to support specified items. Locate sensors and other supporting items on engine or generator, unless otherwise indicated.

2.7 GENERATOR OVERCURRENT AND FAULT PROTECTION

- A. Overcurrent protective devices shall be coordinated to optimize selective tripping when a short circuit occurs.
- 1. Overcurrent protective devices for the entire EPSS shall be coordinated to optimize selective tripping when a short circuit occurs. Coordination of protective devices shall consider both utility and EPSS as the voltage source.
 - 2. Overcurrent protective devices for the EPSS shall be accessible only to authorized personnel.

B. Generator Overcurrent Protective Device:

1. Molded-case circuit breaker, thermal-magnetic type; 100 percent rated; complying with UL 489:
 - a. Tripping Characteristic: Designed specifically for generator protection.
 - b. Trip Rating: Matched to generator output rating.
 - c. Shunt Trip: Connected to trip breaker when engine generator is shut down by other protective devices.
 - d. Mounting: Adjacent to or integrated with control and monitoring panel.
2. Molded-case circuit breaker, electronic-trip type; 100 percent rated; complying with UL 489:
 - a. Tripping Characteristics: Adjustable long-time and short-time delay and instantaneous.
 - b. Trip Settings: Selected to coordinate with generator thermal damage curve.
 - c. Shunt Trip: Connected to trip breaker when engine generator is shut down by other protective devices.
 - d. Mounting: Adjacent to or integrated with control and monitoring panel.
3. Insulated-case circuit breaker, electronic-trip type; 100 percent rated; complying with UL 489:
 - a. Tripping Characteristics: Adjustable long-time and short-time delay and instantaneous.
 - b. Trip Settings: Selected to coordinate with generator thermal damage curve.
 - c. Shunt Trip: Connected to trip breaker when engine generator is shut down by other protective devices.
 - d. Mounting: Adjacent to, or integrated with control and monitoring panel.
4. Molded-case type disconnect switch, 100 percent rated:
 - a. Trip Rating: Matched to generator output rating.
 - b. Shunt Trip: Connected to trip switch when signaled by generator protector or by other protective devices.

C. Generator Protector: Microprocessor-based unit shall continuously monitor current level in each phase of generator output, integrate generator heating effect over time, and predict when thermal damage of alternator will occur. When signaled by generator protector or other generator-set protective devices, a shunt-trip device in the generator disconnect switch shall open the switch to disconnect the generator from load circuits. Protector performs the following functions:

1. Initiates a generator overload alarm when generator has operated at an overload equivalent to 110 percent of full-rated load for 60 seconds. Indication for this alarm is integrated with other generator-set malfunction alarms. Contacts shall be available for load shed functions.
2. Under single or three-phase fault conditions, regulates generator to 300 percent of rated full-load current for up to 10 seconds.

3. As overcurrent heating effect on the generator approaches the thermal damage point of the unit, protector switches the excitation system off, opens the generator disconnect device, and shuts down the engine generator.
 4. Senses clearing of a fault by other overcurrent devices and controls recovery of rated voltage to avoid overshoot.
- D. Ground-Fault Indication: Comply with NFPA 70, "Emergency System" signals for ground fault.
1. Indicate ground fault with other engine generator alarm indications.
 2. Trip generator protective device on ground fault.

2.8 GENERATOR, EXCITER, AND VOLTAGE REGULATOR

- A. Comply with NEMA MG 1.
- B. Drive: Generator shaft shall be directly connected to engine shaft. Exciter shall be rotated integrally with generator rotor.
- C. Electrical Insulation: Class H.
- D. Stator-Winding Leads: Brought out to terminal box to permit future reconnection for other voltages if required. Provide 12 lead alternator.
- E. Range: Provide limited range of output voltage by adjusting the excitation level.
- F. Construction shall prevent mechanical, electrical, and thermal damage due to vibration, overspeed up to 125 percent of rating, and heat during operation at 110 percent of rated capacity.
- G. Enclosure: Drip-proof.
- H. Instrument Transformers: Mounted within generator enclosure.
- I. Voltage Regulator: Solid-state type, separate from exciter, providing performance as specified and as required by NFPA 110.
1. Adjusting Rheostat on Control and Monitoring Panel: Provide plus or minus 5 percent adjustment of output-voltage operating band.
 2. Maintain voltage within 15 percent on one step, full load.
 3. Provide anti-hunt provision to stabilize voltage.
 4. Maintain frequency within 5 percent and stabilize at rated frequency within 5 seconds.
- J. Windings: Two-thirds pitch stator winding and fully linked amortisseur winding.
- K. Subtransient Reactance: 12 percent, maximum.

2.9 OUTDOOR GENERATOR-SET ENCLOSURE

- A. Description:

1. Vandal-resistant, sound-attenuating, weatherproof steel housing, wind resistant up to 100 mph. Multiple panels shall be lockable and provide adequate access to components requiring maintenance. Panels shall be removable by one person without tools. Instruments and control shall be mounted within enclosure.
 - a. Sound Attenuation Level: Level 2 (Fire Station #6), Level 2 (DPW).
 2. Prefabricated or pre-engineered galvanized-steel-clad, integral structural-steel-framed, walk-in enclosure, erected on concrete foundation.
- B. Structural Design and Anchorage: Comply with ASCE/SEI 7 for wind loads up to 100 mph.
- C. Fire Protection: Provide smoke detector in enclosure; mounted according to NFPA 72.
- D. Hinged Doors: With padlocking provisions.
- E. Space Heater: Thermostatically controlled and sized to prevent condensation.
- F. Lighting: Provide weather-resistant LED lighting with 30 fc average maintained.
- G. Thermal Insulation: Manufacturer's standard materials and thickness selected in coordination with space heater to maintain winter interior temperature within operating limits required by engine generator components.
- H. Muffler Location: Within or External to enclosure.
- I. Engine Cooling Airflow through Enclosure: Maintain temperature rise of system components within required limits when unit operates at 110 percent of rated load for 2 hours with ambient temperature at top of range specified in system service conditions.
1. Louvers: Fixed-engine, cooling-air inlet and discharge. Storm-proof and drainable louvers prevent entry of rain and snow.
 2. Ventilation: Provide temperature-controlled exhaust fan interlocked to prevent operation when engine is running.
- J. Interior Lights with Switch: Factory-wired, vapor-proof fixtures within housing; arranged to illuminate controls and accessible interior. Arrange for external electrical connection.
1. AC lighting system and connection point for operation when remote source is available.
 2. DC lighting system for operation when remote source and generator are both unavailable.
- K. Convenience Outlets: Factory wired, GFCI. Arrange for external electrical connection.
- 2.10 VIBRATION ISOLATION DEVICES
- A. Elastomeric Isolator Pads: Oil- and water-resistant elastomer or natural rubber, arranged in single or multiple layers, molded with a nonslip pattern and galvanized-steel baseplates of sufficient stiffness for uniform loading over pad area, and factory cut to sizes that match requirements of supported equipment.

1. Material: Standard neoprene separated by steel shims.
 2. Number of Layers: Two.
 3. Minimum Deflection: 1 inch.
- B. Comply with requirements in Section 232116 "Hydronic Piping Specialties" for vibration isolation and flexible connector materials for steel piping.
- C. Comply with requirements in Section 233113 "Metal Ducts" for vibration isolation and flexible connector materials for exhaust shroud and ductwork.
- D. Vibration isolation devices shall not be used to accommodate misalignments or to make bends.

2.11 FINISHES

- A. Indoor and Outdoor Enclosures and Components: Manufacturer's standard finish over corrosion-resistant pretreatment and compatible primer.

2.12 SOURCE QUALITY CONTROL

- A. Prototype Testing: Factory test engine generator using same engine model, constructed of identical or equivalent components and equipped with identical or equivalent accessories.
1. Tests: Comply with IEEE 115 and with NFPA 110, Level 1 Energy Converters.
- B. Project-Specific Equipment Tests: Before shipment, factory test engine generator and other system components and accessories manufactured specifically for this Project. Perform tests at rated load and power factor. Include the following tests:
1. Test components and accessories furnished with installed unit that are not identical to those on tested prototype to demonstrate compatibility and reliability.
 2. Test generator, exciter, and voltage regulator as a unit.
 3. Full load run.
 4. Maximum power.
 5. Voltage regulation.
 6. Transient and steady-state governing.
 7. Single-step load pickup.
 8. Safety shutdown.
 9. Provide 14 days' advance notice of tests and opportunity for observation of tests by Owner's representative.
 10. Report factory test results within 10 days of completion of test.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas, equipment bases, and conditions, with Installer present, for compliance with requirements for installation and other conditions affecting packaged engine generator performance.
- B. Examine roughing-in for piping systems and electrical connections. Verify actual locations of connections before packaged engine generator installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Interruption of Existing Electrical Service: Do not interrupt electrical service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary electrical service according to requirements indicated:
 - 1. Notify Owner no fewer than two working days in advance of proposed interruption of electrical service.
 - 2. Do not proceed with interruption of electrical service without Owner's written permission.

3.3 INSTALLATION

- A. Comply with NECA 1 and NECA 404.
- B. Comply with packaged engine generator manufacturers' written installation and alignment instructions and with NFPA 110.
- C. Equipment Mounting:
 - 1. Coordinate size and location of concrete bases for packaged engine generators. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified with concrete.
 - 2. Install packaged engine generator with elastomeric isolator pads having a minimum deflection of 1 inch on 4-inch-high concrete base. Secure engine generator to anchor bolts installed in concrete bases. Concrete base construction is specified in Section 260548.16 "Seismic Controls for Electrical Systems."
- D. Install packaged engine generator to provide access, without removing connections or accessories, for periodic maintenance.
- E. Cooling System: Install Schedule 40, black steel piping with welded joints for cooling water piping between engine generator and heat exchanger. Piping materials and installation requirements are specified in Section 232113 "Hydronic Piping."

1. Install isolating thimbles where exhaust piping penetrates combustible surfaces. Provide a minimum of 9 inches clearance from combustibles.
 2. Insulate cooling system piping and components according to requirements in Section 230719 "HVAC Piping Insulation."
- F. Exhaust System: Install Schedule 40, black steel piping with welded joints and connect to engine muffler. Install thimble at wall. Piping shall be same diameter as muffler outlet.
1. Install flexible connectors and steel piping materials according to requirements in Section 232116 "Hydronic Piping Specialties."
 2. Insulate muffler/silencer and exhaust system components according to requirements in Section 230719 "HVAC Piping Insulation."
 3. Install isolating thimbles where exhaust piping penetrates combustible surfaces with a minimum of 9-inch clearance from combustibles.
- G. Drain Piping: Install condensate drain piping to muffler drain outlet with a shutoff valve, stainless-steel flexible connector, and Schedule 40, black steel pipe, the full size of the drain connection, with welded joints.
- H. Gaseous Fuel Piping:
1. Natural gas piping, valves, and specialties for gas distribution are specified in Section 231123 "Facility Natural Gas Piping."
 2. LP gas piping, valves, and specialties for gas piping are specified in Section 231126 "Facility Liquefied-Petroleum Gas Piping."
- I. Electrical Wiring: Install electrical devices furnished by equipment manufacturers but not specified to be factory mounted.

3.4 CONNECTIONS

- A. Piping installation requirements are specified in other Sections. Drawings indicate general arrangement of piping and specialties.
- B. Connect fuel, cooling-system, and exhaust-system piping adjacent to packaged engine generator to allow service and maintenance.
- C. Connect cooling-system water piping to engine generator and remote radiator with flexible connectors.
- D. Connect engine exhaust pipe to engine with flexible connector.
- E. Gaseous Fuel Connections:
1. Connect fuel piping to engines with a gate valve and union and flexible connector.
 2. Install manual shutoff valve in a remote location to isolate gaseous fuel supply to the generator.
 3. Vent gas pressure regulators outside building a minimum of 60 inches from building openings.

- F. Ground equipment according to Section 260526 "Grounding and Bonding for Electrical Systems."
- G. Connect wiring according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables." Provide a minimum of one 90-degree bend in flexible conduit routed to the engine generator from a stationary element.
- H. Balance single-phase loads to obtain a maximum of 10 percent unbalance between any two phases.

3.5 IDENTIFICATION

- A. Identify system components according to Section 230553 "Identification for HVAC Piping and Equipment" and Section 260553 "Identification for Electrical Systems."
- B. Install a sign indicating the generator neutral is bonded to the main service neutral at the main service location.

3.6 FIELD QUALITY CONTROL

- A. Testing Agency:
 - 1. Owner will engage a qualified testing agency to perform tests and inspections.
 - 2. Engage a qualified testing agency to perform tests and inspections.
 - 3. Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.
 - 4. Perform tests and inspections.
- B. Tests and Inspections:
 - 1. Perform tests recommended by manufacturer and each visual and mechanical inspection and electrical and mechanical test listed in the first two subparagraphs below as specified in the NETA ATS. Certify compliance with test parameters.
 - a. Visual and Mechanical Inspection:
 - 1) Compare equipment nameplate data with drawings and specifications.
 - 2) Inspect physical and mechanical condition.
 - 3) Inspect anchorage, alignment, and grounding.
 - 4) Verify the unit is clean.
 - b. Electrical and Mechanical Tests:
 - 1) Perform insulation-resistance tests in accordance with IEEE 43.
 - a) Machines larger than 200 hp. Test duration shall be 10 minutes. Calculate polarization index.
 - b) Machines 200 hp or less. Test duration shall be one minute. Calculate the dielectric-absorption ratio.

- 2) Test protective relay devices.
 - 3) Verify phase rotation, phasing, and synchronized operation as required by the application.
 - 4) Functionally test engine shutdown for low oil pressure, overtemperature, overspeed, and other protection features as applicable.
 2. NFPA 110 Acceptance Tests: Perform tests required by NFPA 110 that are additional to those specified here, including, but not limited to, single-step full-load pickup test.
 3. Battery Tests: Equalize charging of battery cells according to manufacturer's written instructions. Record individual cell voltages.
 - a. Measure charging voltage and voltages between available battery terminals for full-charging and float-charging conditions. Check electrolyte level and specific gravity under both conditions.
 - b. Test for contact integrity of all connectors. Perform an integrity load test and a capacity load test for the battery.
 - c. Verify acceptance of charge for each element of the battery after discharge.
 - d. Verify that measurements are within manufacturer's specifications.
 4. Battery-Charger Tests: Verify specified rates of charge for both equalizing and float-charging conditions.
 5. System Integrity Tests: Methodically verify proper installation, connection, and integrity of each element of engine generator system before and during system operation. Check for air, exhaust, and fluid leaks.
 6. Exhaust Emissions Test: Comply with applicable government test criteria.
 7. Voltage and Frequency Transient Stability Tests: Use recording oscilloscope to measure voltage and frequency transients for 50 and 100 percent step-load increases and decreases, and verify that performance is as specified.
 8. Harmonic-Content Tests: Measure harmonic content of output voltage at 25 percent and 100 percent of rated linear load. Verify that harmonic content is within specified limits.
- C. Coordinate tests with tests for transfer switches and run them concurrently.
- D. Test instruments shall have been calibrated within the last 12 months, traceable to NIST Calibration Services, and adequate for making positive observation of test results. Make calibration records available for examination on request.
- E. Leak Test: After installation, charge exhaust, coolant, and fuel systems and test for leaks. Repair leaks and retest until no leaks exist.
- F. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation for generator and associated equipment.
- G. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- H. Remove and replace malfunctioning units and retest as specified above.
- I. Retest: Correct deficiencies identified by tests and observations and retest until specified requirements are met.

- J. Report results of tests and inspections in writing. Record adjustable relay settings and measured insulation resistances, time delays, and other values and observations. Attach a label or tag to each tested component indicating satisfactory completion of tests.
- K. Infrared Scanning: After Substantial Completion, but not more than 60 days after final acceptance, perform an infrared scan of each power wiring termination and each bus connection while running with maximum load. Remove all access panels so terminations and connections are accessible to portable scanner.
 - 1. Follow-up Infrared Scanning: Perform an additional follow-up infrared scan 11 months after date of Substantial Completion.
 - 2. Instrument: Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.
 - 3. Record of Infrared Scanning: Prepare a certified report that identifies terminations and connections checked and that describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

3.7 MAINTENANCE SERVICE

- A. Initial Maintenance Service: Beginning at Substantial Completion, provide 12 months' full maintenance by skilled employees of manufacturer's designated service organization. Include quarterly exercising to check for proper starting, load transfer, and running under load. Include routine preventive maintenance as recommended by manufacturer and adjusting as required for proper operation. Provide parts and supplies same as those used in the manufacture and installation of original equipment.

3.8 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain packaged engine generators.

END OF SECTION 263213.16

DLZ MICHIGAN, LLC
607 Shelby St, Ste 650
Detroit MI 48226
08/13/24

ADDENDUM NO. 1

RE: **Livonia
Generator Upgrades**

TO: All Bidders and others to whom Plans and Specifications for the above referenced Project have been issued.

The items included in this Addendum are to become a part of the original Drawings and Project Manual as if included herein. Only these items are to be altered. The remainder of the original Drawings and Project Manual remain valid in their entirety.

CERTIFIED BY:

Jeromy Haines
Professional Engineer

PROJECT MANUAL

<u>Section</u>	<u>Article</u>	<u>Action</u>
087100		Added Door Hardware Spec
263213.16		Revised Spec

DRAWINGS

<u>Drawing No.</u>	<u>Detail/Item</u>	<u>Action</u>
II-E1.0	Keynotes	Removed Electronic Lock – Changed to mechanical lock
II-E2.1	One Line/Riser Diag.	Changed note to read existing to remain (ETR)
III-E1.1	1/Site Electrical Plan	Changed location of transfer switch to provide adequate clearance. Revised note 262613 to show correct reference.
III-E2.1	One Line	Revised transformer size to reflect currently installed transformer.
III-E2.2	One Line	Revised transformer size to reflect currently installed transformer. Revised Transfer switch to be service entrance rated. Revised meter ct's to match maximum current of service. Revised generator size and switchboard to match closer to existing utility transformer capacity, Revised feeder sizes to match fuse sizes.
II-A1.1	Arch Plan & Details	Removed Electronic Lock – Changed to mechanical lock
III-A1.2	Arch Plan & Details	Removed Electronic Lock – Changed to mechanical lock

ATTACHMENTS

Bid Questions & Clarifications

DECIMA, LLC

Fire Station #3 MCB Clarification

In the drawing file page number 16 drawing number II-E2.1: in the existing riser diagram 600A MCB exists there are no demolition notes here. But in the proposed riser diagram it is noted with (N) that we have to provide a new 600A MCB can you please clarify it? If it is required to provide a new MCB then kindly provide us with a one-line diagram and details for it.

RESPONSE:

Existing Main interior Main Switchboard equipped with 600A Main Circuit Breaker to remain. New exterior rated/located ATS to now be service entrance disconnect and equipped with 600A Main Circuit Breaker. Approved equal by EOR and Owner that satisfy design intent and NEC and all local requirements will be accepted.

Jonah Bijani | Electrical Engineer

904-539-7904 (office) | 904-803-9189 (cell)

jbijani@dlz.com | www.dlz.com



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PREVENTATIVE MAINTENANCE TECHNOLOGIES, LLC

Clarification of Generator spec

Did we get clarification about generator sizing at fire station 6?

The existing transformer to remain is labeled incorrectly on the drawings, and its size/capacity cannot handle the new generator.

RESPONSE:

See addendum to be issued end of this week for updated generator sizing, and electrical equipment sizing.

Jonah Bijani | Electrical Engineer

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RCI ELECTRIC COMPANY

4999 McCarthy Dr.
Milford, Michigan 48381
(248) 471-2277 FAX (248) 471-6550

Request for Information

Date: July 30, 2024

RFI #: 20240730-01

To: City of Livonia - Purchasing

Attn: Gus Kandah

Project: Livonia Generators Project - Project #2142-7258-09, MITN RFB-07102024DPW - 2024 DPW, FIRE STATION #3 & #6 GENERATORS

Subject: Bid Document Issues to be Addresses

Gus,

Bid document issues to be addressed prior to bid are as follows:

Request for Bid Document Issues

1. Proposal page FP-2 – Completion timing of 180 / 210 days for this project is not doable. **Lead time for generators, switchboard and ATS equipment exceed time limits shown on the form – 24 to 40 weeks for the generators, depending on size, and +/- 40 weeks for the switchboard.** ATS lead times are yet to be determined.
2. Proposal page FP-2; General Conditions Item 39, page GC-13 – Liquidated damages are shown on this project. As all sites are going to be operational throughout construction, except for short changeover periods at each site, and with equipment lead times and project duration questions this requirement should be removed.
3. General Conditions Item 40, page GC-13-GC-15 – Engineer Inspection Days costs not to be included as discussed in the pre-bid meeting. The City is not hiring an outside engineering firm to monitor construction on this project.

Project Site Construction Issues

1. Generator Enclosure Security Access: Fire Station #3 sheets II-A1.1, II-E1.0; Fire Station #6 sheets III-A1.2, III-E1.1 – Plans show an electrically operated lock system with communications interface to a building security / access control system on the generator enclosure man gates. Per fire department personnel at the pre-bid walk through, the locks are to be mechanical push button type security lock sets.
2. Fire Station #3, sheet II-E2.1 – Plan shows new switchboard for this site. Should be shown as “ETR”, existing to remain.
3. Fire Station #6, All Sheets – Plans shown the existing DTE service transformer as 500kVA but it is actually a 100/50kVA, 100kVA single phase with 50kVA for the high leg on the 240 volt delta system (+/- 500 amps for the 240 volt Delta system). This error, in conjunction with the oversize (1200 amp) main switch in the existing switchboard, has skewed the design so that the generator system is twice the size that it should be. **RECCOMENDATION – change the generator to +/- 200kW, change the ATS shown on plans to the appropriate size ATS for the generator selected, make the ATS “Service Entrance” rated to match the other (2) sites (which eliminates the outdoor “Service Disconnect” circuit breaker) and reduce fuse size in the main switchboard to 500 or 600 amps, depending on service entrance ATS sizing.**

RCI ELECTRIC COMPANY

4999 McCarthy Dr.
Milford, Michigan 48381
(248) 471-2277 FAX (248) 471-6550

4. Fire Station #6, All Sheets – Plans show replacement of the existing main switchboard and (6) other panels, including emergency power panel LPX, at this site. Does this equipment need to be replaced due to electrical / mechanical or other issues? Replacement of the main switchboard may require as much as a week of facility down time, other than basic emergency system power fed with temporary power through panel LPX. Panel LPX emergency power panel replacement will take all emergency systems off line for 1 – 2 days as this panel is flush in a block wall. The remaining panels will take down their respective loads for approximately a day each for replacement. **Should switchboard and panels be cleaned, inspected and tested in lieu of replaced?**
5. Fire Station #6, All Sheets – Plans show replacing wiring, using existing conduits, for all panels to be replaced. Wire size specified is 4/0 for 200 amps instead of 3/0 required for 200 amps at 75 degrees C. The concern is that we are reusing existing conduits that are, for the most part, not accessible and the larger wire size may be an issue. **Can we use the code required 3/0 wire size in lieu of the larger 4/0 wire size?**

Thank you for your help in resolving these issues.

Frank Struble
RCI Electric

RESPONSE:

1. Timing and completion for project will be based on lead time for materials.
Please specify material lead time with bid submission. Once all materials have arrived, the work should commence immediately and completed within 90 days.
 2. Can not waive liquidated damage provision.
 3. Engineering inspection day costs are not applicable to this project.
-
1. See addendum to be issued end of this week for updated note.
 2. See addendum to be issued end of this week for updated note.
 3. See addendum to be issued end of this week for updated one line for site.
 4. No, replacement is required.
 5. See addendum to be issued end of week for any updated wire sizes.

Jonah Bijani | Electrical Engineer

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jbijani@dlz.com | www.dlz.com

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TOTAL ENERGY SYSTEMS, LLC

Do the ATS's need to be bypass isolation?

Fire Station #6 – Drawing Number III-E2.2 shows the service entrance breaker separate from the ATS. The other two projects, Fire Station #3 and DPW Building specify the ATS to be service rated (integral service disconnect breaker). Is the Fire Station #6 ATS non-service rated?

Please provide complete specs for SECTION 263213.16. The copy we have has editor's notes and appear to not have been edited from original MasterSpec format.

RESPONSE:

Bypass isolation is not required

See addendum to be issued end of this week for updated generator sizing, electrical equipment sizing, incoming service changes, new ATS service entrance ratings, and updated specifications.

Jonah Bijani | Electrical Engineer

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June 11, 2025

Mr. Gus Kandah
Purchasing Manager
City of Livonia | Finance

RE: DPW & Fire 3 - 6 Generator Replacement Bids

Dear Mr. Kandah,

Following our bid interview on June 5th and careful review of the Generator bids, DLZ recommends moving forward with the low bidder, American Generators Sales & Service, with a bid of nine hundred eighty-nine thousand five hundred ninety-one dollars and ninety-nine cents (\$989,591.99).

The low bid was interviewed and provided sufficient qualifications, references, bonding, insurance, and met schedule requirements. The bid was open to multiple manufacturers of Generator. The low bid included the brand Blue Star Generators. While not familiar with the brand initially, we believe sufficient research was completed by the City of Livonia Maintenance staff to ensure Blue Star meets expectations and is an approved equal.

We look forward to completing this project with American Generators Sales & Service and the City of Livonia team.

Sincerely,

Joe Shadik
Project Manager

CC: Gus Kandah – Arnold Pollis

TOTAL ENERGY SYSTEMS, LLC

We had received Addendum No. 1 for the (3) City of Livonia projects (DPW, Fire Station #3, Fire Station #6) from Electrex Industrial. I was able to review the materials and after speaking with Michael, had a few follow up questions I was hoping you could assist with.

Per Addendum No. 1, it is clarified that bypass isolation is not required.

It was discovered today that the ASCO model numbers listed on I-E2.1 and II-E2.1 reflect a closed transition, bypass isolation, and service entrance rated ATS (with breakers both on the normal and emergency side).

Note that the ATS description on III-E2.2 also retains language indicating that it is with maintenance bypass.

- Are there plans to provide updated riser diagrams with updated model numbers (or remove them in its entirety) to reflect the correct configuration? **NO, WE WILL APPROVE THE EQUAL IF IT MEETS ALL REQUIREMENTS,**
- Is closed transition required on any of the transfer switches? **NO**
- Does the normal and emergency side both need an integral breaker? As the generators will have a breaker, our recommendation is that it is only on the normal side. **BOTH SIDES REQUIRE AN INTEGRAL BREAKER. IF THE BREAKER IS PRESENT IN THE GENERATOR, THAT WILL SUFFICE**
- Are 7000 series transfer switches required? Now that bypass isolation is no longer required, and potentially no longer needing closed transition, we could provide an ASCO 300 series or equivalent to meet intent. **IF THE ATS WILL MEET THE REQUIREMENTS IT WILL BE APPROVED EQUAL**
- Please indicate required KAIC ratings for the transfer switches on I-E2.1 and II-E2.1. **MATCH EXISTING SERVICE ENTRANCE DISCONNECT RATING**

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**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD JULY 07, 2025**

9.

Meeting was called to order at 9:08 p.m. by Vice President Ptashnik. Present: Scott Morgan, Laura Toy, Rob Donovic, Carrie Budzinski, Lynda Scheel, and Vice President Ptashnik. Absent: Council President McCullough.

Elected and appointed officials present: Carter Fisher, City Attorney; Lori L. Miller, City Clerk; Mark Taormina, City Planner and Economic Development Director; Dave Lear, Assistant City Engineer.

Councilmember Toy led the meeting with the Pledge of Allegiance.

13. AWARD OF CONTRACT: Department of Public Works, Water & Sewer Department, re: sewer line chemical root control services, in an annual amount not to exceed \$100,000.00, for a period of three years, with the option of a two-year extension, from budgeted funds.
Don Rohraff, Public Works Director, mentioned the company Duke's Root Control, who has been doing the job for years and provide excellent service.

Motion was made by Councilmember Toy to put the matter on the Consent portion of the next Regular Agenda.

DIRECTION:

APPROVING

CONSENT



LETTER TO THE LIVONIA CITY COUNCIL

13.

DPW
June 11, 2025

MEETING DATE

S070725/R072125

PRESENTED BY

Don Rohraff, Director of Public Works

AGENDA ITEM

AWARD OF CONTRACT: Department of Public Works, Water & Sewer Department, re: sewer line chemical root control services, in an annual amount not to exceed \$100,000.00, for a period of three years, with the option of a two-year extension, from budgeted funds.

BACKGROUND DETAILS

Nuisance roots in the public sanitary sewer create problems such as decreased flow capacity, blockages, and infiltration of groundwater into the sewer, all of which can lead to sewer backups and overflows. For many years, the Department of Public Works has contracted for proactive preventative care using a thick foaming chemical herbicide approved by the U.S. EPA for sewer application. On average, the City completes approximately 18,000 feet of sewer line chemical root treatment each year.

On April 23, 2025, the City of Livonia placed an advertisement for bids on the Michigan Inter-governmental Trade Network (MITN) for a three-year contract with an optional two-year mutually agreed-upon extension for our Sewer Line Chemical Root Control program. The terms of the bid are for unit pricing per foot of pipe with a total contract amount not to exceed \$100,000 per year. The bid specifications also require a warranty period of six months to guarantee roots will not exhibit regrowth in a treated sewer during the warranty period or the contractor will retreat that section of sewer at no cost to the City.

Bids were received and reviewed on May 13, 2025. One bid was received from Duke's Root Control, Inc. Since 2011, Duke's Root Control Inc. has performed sewer line chemical root control for the City. They have a great understanding of our sewer system and have always provided high-quality services. Duke's has been in the root control business for 40 years and has treated over 300 million feet of sewer lines.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

Authorize the Mayor and City Clerk, for and on behalf of the City of Livonia, to execute a three (3) year contract, with the option for a two (2) year contract extension, between the City of Livonia and Duke's Root Control, Inc., 1020 Hiawatha Blvd. West, Syracuse, New York 13204, for the period May 1, 2025, through April 30, 2028, for sewer line chemical root control services, in an annual

amount not to exceed \$100,000.00, the same having been in fact the only qualifying bid received which meets all specifications; FURTHER, the Council does hereby authorize an expenditure in an annual amount not to exceed \$100,000.00 from funds budgeted in the Water and Sewer Fund (Account No.: 592-559-818-000) for this purpose.

SPECIFIC NAME OF PRODUCT AND NUMBER TO BE PURCHASED (if more than one)

chemical root control

CONTRACT: Amount and/or purchase price and length of contract (with dates if applicable)

\$100,000.00 annually

DETAILED WORK BEING PERFORMED

Chemical treatment of City sewer lines for root control purposes.

FISCAL CONSIDERATIONS (Amount requested and Account(s) used. If applicable, Grant Funding information)

\$100,000.00 annually
592-559-818-000

ACCEPTANCE OF BID (Please detail the following: Why accepted, why not lowest bidder, company name, contact person, full address)

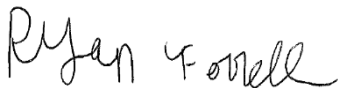
One bid submitted

REASON TO WAIVE BID PROCESS (Emergency, Professional services, No advantage to City and why, Consortium package, etc): n/a

ATTACHMENTS

1. chemical root bid final_April 23 2025_FINAL
2. Dukes Bid

APPROVED BY



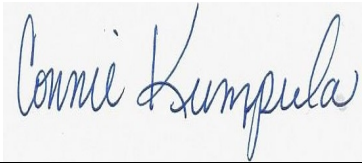
Ryan Ferrell, Assistant Director of Public Works

Date: June 16, 2025



Don Rohraff, Director of Public Works

Date: June 16, 2025



Connie Kumpula, Chief Accountant

Date: June 18, 2025



Carter Fisher, City Attorney

Date: June 18, 2025



Maureen Miller Brosnan, Mayor

Date: June 20, 2025

CITY OF LIVONIA
DEPARTMENT OF PUBLIC WORKS
PUBLIC SERVICE DIVISION

**2025 - 2028 Chemical Root Control Program with a
Two (2) Year Option Extension**

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12. Contract	C-1 and C-2

CITY OF LIVONIA
DEPARTMENT OF PUBLIC WORKS
PUBLIC SERVICE DIVISION

ADVERTISEMENT FOR BIDS
FOR THE CITY OF LIVONIA
SEWER LINE CHEMICAL ROOT CONTROL PROGRAM

Sealed proposals will be received by the City of Livonia, Michigan via the MITN website (www.mitn.info), until 2:00 p.m. on MAY 13, 2025. Bid submissions will be accepted online only. Recorded bid amounts will be posted on the MITN website. Bids submitted electronically shall be provided in Adobe Acrobat PDF Format. The Livonia City Hall is closed to the public until further notice. Only bids received via the MITN website will be considered.

The City of Livonia seeks proposals for the following:

**SEWER LINE CHEMICAL ROOT CONTROL PROGRAM
2025 – 2028
with a Two (2) Year Option Extension**

Proposals must be submitted on forms furnished by the Director of Finance of the city of Livonia. Instructions to bidders and specifications for items required may be obtained on the MITN website at www.mitn.info.

The City reserves the right to reject any or all bids and to waive irregularities in bids.

Donald R. Rohraff
Director of Public Works

Maureen Miller Brosnan
Mayor, City of Livonia

INSTRUCTIONS TO BIDDERS
FOR
CHEMICAL ROOT CONTROL 2025 – 2028 PROGRAM
With a Two (2) Option Extension

1. Bids will be received electronically by the City of Livonia, Michigan, as owner, until **2:00 p.m. on May 13, 2025** via the MITN website (www.mitn.info). Bid submissions will be accepted online only. Recorded bid amounts will be posted on the MITN website. Bids submitted electronically shall be provided in Adobe Acrobat PDF Format. The Livonia City Hall is closed to the public until further notice. Only bids received via the MITN website will be considered. Late bids will not be considered.
2. Bids shall be for items as specified on attached Specifications and Proposal Form
3. Bids shall be submitted via the MITN website. The subject line of the email shall read: "Chemical Root Control Due 05/13/2025". The body of the email shall contain:
 - Company Name
 - Mailing Address
 - Contact Person & Title
 - Phone Number & Email Address
4. The vendor's bid response shall be attached to the email in Adobe PDF Format. This is the only acceptable format for bid submission.
5. Bids shall be submitted in strict accordance with the City of Livonia specifications for the items listed herein. Bid responses shall be submitted on the forms provided by the City of Livonia only without deviation.
6. If any figure already entered on the proposal form by the bidder is to be altered, it shall be crossed out with ink and the new unit price entered above it or below it and initialed by the bidder.
7. Unless otherwise specified, delivery shall be to the Department of Public Works Yard, 12973 Farmington Road, Livonia, Michigan 48150.
8. In comparing bids, the bid of any City-based firm may be deemed a better bid than the bid of any competing firm which is not City-based, whenever the bid of such competing firm shall be less than three percent lower than the bid of the City-based firm on any contract in an amount of \$100,000 or less, and less than one percent lower on any amount bid in excess thereof. The firm making the lowest bid thus evaluated shall be deemed the lowest bidder. (Section 3.04.140.E.1. of the Livonia Code of Ordinances, as amended).

Submitted by: _____
(Company name)

SEWER LINE CHEMICAL ROOT CONTROL PROPOSAL FORM (2025 - 2028)

PROPOSAL PRICE PAGE
(Submit with Bid)

Sewer line chemical root control, including all labor, materials, equipment and associated costs, shall be paid for at the unit price bid per linear foot of each size pipe. Unit prices are to be computed per linear foot manhole-to-manhole.

PIPE SIZE	UNIT PRICE PER LINEAR FOOT (2025 – 2028)	ESTIMATED FOOTAGE (LF)	TOTAL PRICE
6 inch		1,000	
8 inch		1,000	
10 inch		1,000	
12 inch		1,000	
15 inch		1,000	
18 inch		1,000	
21 inch		1,000	
Additional Manholes*		1,000	
Sum Total Price (in figures)			

* Manholes not directly connected to main-line sections of pipe specified for treatment.

The Owner reserves the right to reject any or all bids. Bidders are cautioned not to attach any conditions, limitations, or provisions to the proposal as such conditions, limitations or provisions will render their bid informal and cause its rejection.

Submittals: Failure to enclose the following will render this bid non-responsive and result in the rejection of this bid. Indicate whether the following are enclosed.

Yes	No	
		Proposal Price Page
		Specimen Label
		Safety Data Sheet
		Pollution Liability Insurance Certificate
		Environmental Hazard Submittal
		Contractor's Qualification Page
		Contractor's Reference Page
		Pesticide Applicator Experience Submittal
		Confined Space Entry Certificates

Submitted by: _____
(Company name)

SEWER LINE CHEMICAL ROOT CONTROL PROPOSAL FORM (2025 - 2028)

**ENVIRONMENTAL HAZARD SUBMITTAL
(Submit With Bid)**

Complete the following questionnaire with respect to the product submitted for use by the bidder.

1. Check the US EPA classification for the submitted product.

Restricted use ____ General use ____

2. What are the Active Ingredients in the product submitted? _____

3. Check the classification the U.S. Environment Protection Agency has assigned to the active ingredient(s) in your product with regards to whether it causes cancer:

✓	1985 Classification
	Human carcinogen
	Probable human carcinogen
	Possible human carcinogen
	Not classifiable as to Human Carcinogenicity
	Evidence of Non-carcinogenicity for humans

✓	2005 Classification
	Carcinogenic to humans
	Likely to be carcinogenic to humans
	Suggestive evidence of carcinogenic potential
	Inadequate information to assess carcinogenic potential
	Not likely to be carcinogenic to humans

4. Volatile organic compounds (VOC) present an inhalation exposure hazard to humans. Does the product submitted contain active herbicide(s) that are considered (VOC) at ambient temperatures? Yes ____, No ____.

If yes, list the volatile herbicide(s) below: _____

Submitted by: _____
(Company name)

SEWER LINE CHEMICAL ROOT CONTROL PROPOSAL FORM (2025 - 2028)

**CONTRACTOR'S QUALIFICATION SUBMITTAL
(Submit With Bid)**

Failure to complete this page in full, and to provide valid, existing licenses and insurance, as required, will render this bid non-responsive and result in the rejection of this bid.

Contractor name: _____

Street Address: _____

City/State/Zip: _____

Contractor's State Pesticide Business license #: _____

Contractor US DOT #: _____

Brand name of proposed chemical root control product: _____

US EPA root control product registration #: _____

State root control product registration #: _____

Does the Contractor have pollution liability insurance as specified? Yes ___ No ___

Contractor's pollution liability insurance carrier: _____

What is the current a.m. best rating for your pollution insurance carrier? _____

Using the product submitted, does the Contractor have:

1. A minimum of 5 years of experience. Yes ___ No ___
2. A total of 500,000 linear feet completed in the specified type of work. Yes ___ No ___
3. Completed three other jobs, each consisting of more than 50,000 linear feet, which can the owner verify? Yes ___ No ___

Is a product label and Safety Data Sheet (SDS) attached? Yes ___ No ___

As per the federal code 29 CFR 1910.146, are certificates of completion in confined space entry training attached for all pesticide applicators listed below? Yes ___ No ___

**Contractor's State Certified Pesticide Applicators
(List 3 minimum)**

1. Name: _____ Certification #: _____ Years of Experience: _____

2. Name: _____ Certification #: _____ Years of Experience: _____

3. Name: _____ Certification #: _____ Years of Experience: _____

Submitted by: _____
(Company name)

SEWER LINE CHEMICAL ROOT CONTROL PROPOSAL FORM (2025 - 2028)

**CONTRACTOR'S ROOT CONTROL REFERENCE PAGE
(Submit With Bid)**

The Contractor must submit three municipal references of similar scope using the product submitted, which the owner can verify.

Owner/Agency:	
Address:	
City, State, Zip:	
Contact & Phone:	
Footage Treated:	
Date of Treatment:	

Owner/Agency:	
Address:	
City, State, Zip:	
Contact & Phone:	
Footage Treated:	
Date of Treatment:	

Owner/Agency:	
Address:	
City, State, Zip:	
Contact & Phone:	
Footage Treated:	
Date of Treatment:	

Only experienced Contractor's in this type of work will be considered for award. Failure to provide sufficient verifiable references will result in the rejection of this bid.

Submitted by: _____
(Company name)

SEWER LINE CHEMICAL ROOT CONTROL PROPOSAL FORM (2025 - 2028)

**PESTICIDE APPLICATOR SUBMITTAL
(Submit With Bid)**

Complete this form for each qualified Certified Applicator. Make copies, as necessary.

License Information

Applicator's Name: _____

Pesticide Applicators License #: _____

State Issuing Pesticide Licensing: _____

Date License Issued: _____ Date License Expires: _____

Name of Licensing Agency: _____ Phone: _____

Copy of License Submitted with Bid (Yes, No)? _____

Applicator's Experience Obtained with above License

Owner (Name of Municipality)	Date Complete	Footage Treated
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_____	_____	_____
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_____	_____	_____
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_____	_____	_____
-------	-------	-------

_____	_____	_____
-------	-------	-------

_____	_____	_____
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_____	_____	_____
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_____	_____	_____
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_____	_____	_____
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_____	_____	_____
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_____	_____	_____
-------	-------	-------

_____	_____	_____
-------	-------	-------

Total Footage Treated under this License: _____

CITY OF LIVONIA
SEWER CHEMICAL ROOT CONTROL - TECHNICAL SPECIFICATIONS

PART 1 - GENERAL

1.01 SCOPE OF WORK

Supply all labor, equipment, materials, and incidentals necessary to apply an herbicide root control product within sanitary sewer lines to kill the root growth present and to control regrowth without damaging the vegetation producing the roots.

1.02 SUBMITTALS

A. The Contractor shall provide shop drawings, product info, and other pertinent information as follows:

1. Safety Data Sheet (SDS)
2. Product Specimen Label.
3. Registration with US EPA.
4. Registration with the Michigan Department of Environment, Great Lakes and Energy (EGLE).

B. Experience and Qualifications

Bidders must be licensed with the State prior to the bid date. All bidders must have a minimum level of pesticide application experience with the product submitted, (see Part 6) and always employ a State certified pesticide applicator on every job site. The contractor must submit certificates for three current employees with valid certificates of completion of a course in a confined space rescue training in accordance with the Federal Regulation CFR 29 1910.146 that pertains to manhole entry. Certificates must apply to field personnel the contractor intends to have work on the project specified herein. Contractors must provide the necessary references and documentation with the bid (see reference page attachment).

1. Applicator license/certification with the State. Experience records demonstrate a minimum of 500,000 feet of sewer applications as a Certified Pesticide Applicator. See Part 6.04
2. Experience records to demonstrate a minimum of three projects completed and each project exceeding 50,000 linear feet of direct experience in applying chemical sewer root control of the specified type. See Part 6.03
3. Project experience to indicate the staffing and equipment capable of performing work consistent with the needs of this contract on an immediate basis.

1.03 TRANSPORTATION, STORAGE, AND PROTECTION

All materials shall be transported, stored, and protected in accordance with manufacturers' recommendations and applicable Federal and State guidelines. Liquid chemicals must be

CITY OF LIVONIA
SEWER CHEMICAL ROOT CONTROL - TECHNICAL SPECIFICATIONS

packaged in mini-bulk containers that are designed for re-use with dry lock connectors, as part of a closed chemical handling system. Disposable pesticide containers will not be accepted for use on this project.

PART 2 - PRODUCTS

2.01 ROOT CONTROL PRODUCT

A. The root control product shall be registered with the US EPA and the State, **prior to the bid opening**, and shall be labeled for use in sewers to control tree roots. The root control product shall contain an active ingredient for killing sewer roots and controlling their regrowth. There should also be a surfactant system to deliver the active ingredient (herbicide) to the target root tissue.

1. Active ingredient:

- a. Shall not be labeled "RESTRICTED USE: DUE TO ACUTE TOXICITY" by the US EPA.
- b. Must be currently classified by the US EPA as a non-carcinogen, i.e., as "Not Likely to Be Carcinogenic to Humans" under either the 1985 or 2005 classification systems.
- c. Must be non-volatile to prevent inhalation and/or exposure to workers, homeowners and the public in the vicinity of treated areas.

2. Surfactant system:

- a. Must produce a dense, small bubble, clinging foam, which sustains its shape for a minimum of one hour.
- b. Must enhance the penetration of herbicide into root masses.
- c. Products that generate foam chemically, upon contact with water **shall not be accepted**.

B. Substitutes and Proven Equivalents:

Should the Contractor wish to use any product other than specified herein, must submit complete descriptive literature naming the proposed substitution and manufacturer and must be approved in writing prior to the bid date.

PART 3 - APPLICATION

3.01 MANNER OF APPLICATION

A. All work must be performed by on-site State certified applicator and be performed according to label instructions. All applications shall be done by foaming or methods provided on the product label.

The application of the product shall be performed in such a way as to contact roots

TS-

CITY OF LIVONIA
SEWER CHEMICAL ROOT CONTROL - TECHNICAL SPECIFICATIONS

within the main line sewer to be treated. Effort will also be made to penetrate lateral sewers to contact roots residing in the "wye" connections. The foam must be generated using air injection equipment, and the foam must be pumped into the sewer under low pressure. Foam quality must be sufficient to effectively treat all pipe diameters. Products designed to generate foam on contact with water **shall not be accepted**.

- B. Due to efficacy and risk of exposure, high pressure application equipment shall not be used prior to or during the treatment process.
- C. Manholes used to access a main line sewer section for treatment must be treated as part of the main line treatment and included as part of the main line section price per foot. The Contractor must fully cover the inside manhole wall with a three-inch coating of foam within twelve inches of the road/ground surface. The Contractor must incorporate a treatment method that complies with all safety and label instructions of the pesticide product accepted for use.

3.02 NOTIFICATION OF WASTEWATER TREATMENT PLANT

The Contractor shall take all steps necessary to prevent adverse effects on wastewater treatment plant (hereafter, WWTP) processes.

The Contractor attests, through submittal of this bid and entering this contract, that the Contractor is expert in this type of work and understands the risks posed by this type of work on WWTP processes. The Contractor shall not rely on the Owner for guidance in this regard.

The introduction of any products in any collection system must be with the approval of the appropriate WWTP personnel, and the Contractor must notify appropriate WWTP personnel of the date and time of all intended work, and provide information requested, including specimen product labels and Safety Data Sheets, for any products introduced to the collection system.

The Contractor will provide names and phone numbers of individuals responsible for the application of the products.

The Contractor shall be financially responsible for any adverse effects on WWTP processes caused by the product applications, including but not limited to the following: damages to plant processes or equipment, clean-up and restoration costs, fines imposed on the Owner or on the operator of the WWTP by State or Federal agencies, pollution of receiving waters, and civil suits. The Contractor shall further indemnify and hold harmless the Owner and the operator of WWTP against all costs, including legal expenses, relating to WWTP failure or other damages or pollution caused by the application of products by the Contractor.

3.03 POLLUTION LIABILITY INSURANCE

The pollution liability insurance described herein is in addition to all other insurance required by the

CITY OF LIVONIA
SEWER CHEMICAL ROOT CONTROL - TECHNICAL SPECIFICATIONS

Owner.

At the time of the bid opening, the contractor shall submit insurance certificates showing pollution liability coverage. This coverage shall protect the contractor, the agency, and the agency's officer, agents, and employees from claims for damages for bodily or personal injury, sickness or disease, including death, and from claims for damages to property and/or the environment, which may arise directly out of the use of chemicals and/or pollution. The minimum amount of such insurance shall be **five million (\$5,000,000.00) dollars** total loss. This insurance shall be provided to the contractor by an insurance company that holds at least an "a" rating by a.m. best rating service. Nothing contained in this section shall be construed as limiting the extent of the contractor's responsibility for payment of damages resulting from his operations under the contract.

PART 4 - REPORTING AND DOCUMENTATION

4.01 REPORTS ON COMPLETED WORK TO BE PROVIDED BY THE CONTRACTOR

- A. Upon completion of the project and accompanying the invoice, or whenever requested to by the Owner, the Contractor shall submit reports which show the following information:
1. The name of the Owner
 2. The report date
 3. The date each given sewer line was treated
 4. Street name for each given sewer line
 5. A description (manhole numbers, house numbers, cross streets, etc.) which will enable the Owner to accurately identify the exact location of each sewer line
 6. The pipe size for each given sewer line
 7. The length (manhole to manhole) for each given sewer line
 8. To demonstrate the ability to complete GIS maps for lines treated
 9. The date the guarantee expires on each given sewer line
 10. The ability to have each treatment truck on site to be equipped with GPS locations

In addition, all reports should be provided in an acceptable software form and formatted for a program designated by the owner at the time of billing.

4.02 GEOSPATIAL (GIS) DOCUMENTATION AND DATA CAPTURE

- A. The owner will provide Contractor with the GIS files necessary to locate structures and pipelines for the project. File format shall be in. GDB, .SHP and/or .CSV format. GPS coordination accuracy is not guaranteed.
- B. Contractor will supply secure hosting to GIS platform to upload and manage project data. A link to the Owner shall be provided to track project progress and shall be considered incidental to the project.
- C. Contractor will verify GIS pipe footage and will document the following:

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CITY OF LIVONIA
SEWER CHEMICAL ROOT CONTROL - TECHNICAL SPECIFICATIONS

- a. Name of Applicator
 - b. Treatment Date
 - c. Status of pipeline completion
 - d. Treated length of pipe
- D. Upon completion of field work and project close out, Contractor shall provide to Owner, upon request, a GIS geodatabase export (if attachments were captured during study) or .SHP file export

PART 5 - GUARANTEE

5.01 REQUIREMENTS

For each sewer section (manhole-to-manhole) that is treated under the Contract, the Contractor shall guarantee the work as follows.

At the option of the Owner, the Contractor shall, at his own expense, re-treat a sewer section, or refund 100% of the payment received to treat that section, in the event that: (1) live roots are found in the section within six months after the application; or, (2) the section plugs up due to tree root obstructions within a period of two years, beginning the date of treatment, and ending two years after the date of treatment.

Retreatments, performed at no charge in honor of the guarantee, do not extend the expiration date of the guarantee.

The guarantee applies only to main line sewer stoppages caused by tree roots. The Contractor is not responsible for damage caused by main line stoppages.

The decision of the Owner as to the cause of a stoppage is binding.

The Contractor shall be required to return periodically, at the Contractor's sole expense, for the purpose of performing free re-treatments as required under the guarantee.

PART 6 - QUALIFICATION SUBMITTALS

6.01 ENVIRONMENTAL HAZARD SUBMITTAL

Complete the attached questionnaire and submit with a bid.

6.02 CONTRACTOR'S QUALIFICATION SUBMITTAL

Complete the attached qualification form and submit with a bid.

CITY OF LIVONIA
SEWER CHEMICAL ROOT CONTROL - TECHNICAL SPECIFICATIONS

6.03 CONTRACTOR'S EXPERIENCE SUBMITTAL

The Contractor must submit three municipal projects as references for chemical sewer root control work which the agency can verify. Each reference must meet or exceed a project size similar scope. Each reference must be for work performed by the Contractor within the last five years. All references must pertain to actual root control work performed by the Contractor (sub-Contractor references are not applicable). Reference work shall have been performed with the product submitted, and the manner of application specified herein. Previous work for the agency is applicable. Reports and invoices for completed work shall be submitted to verify experience.

6.04 PESTICIDE APPLICATOR EXPERIENCE SUBMITTAL

Certified pesticide applicators shall have a minimum of five years' experience in performing the type of work specified, while licensed as a state-certified pesticide applicator. To be considered as qualifying experience, experience must meet the three following requirements: 1) the experience must be obtained as a state licensed and certified applicator, and 2) the experience must have been obtained while the applicator was in the employ of the bidder, and 3) the experience must be for the applications of the product submitted herein. Each certified pesticide applicator shall have personally performed a minimum of 500,000 linear feet of treatments as a certified pesticide applicator. The Contractor must submit a list of three (minimum) employees that are certified with the State, and that meet these requirements with the bid. Complete the attached questionnaire for each applicator and submit with a bid.

PART 7 - CONTRACT PERIOD

- 7.01** The initial term of the contract shall be for the period of one year. The contract may be extended for additional one-year periods up to a total of four additional years, with the mutual consent of the Owner and Contractor. Price changes for succeeding years shall be adjusted in accordance with the consumer price index for the Owner's locale.

<u>SECTION</u>	<u>TOPIC</u>
1.	Contract Documents
2.	Definitions
3.	Intent of the Contract Documents
4.	Contract Drawings and Specifications
5.	Shop Drawings
6.	Soil Conditions
7.	"Or Equal" Clause
8.	Patents and Infringements
9.	Superintendence
10.	Workers
11.	Subcontracting
12.	Director's Status
13.	Inspector's Status
14.	Inspection
15.	Protection of Work
16.	Accident Protection
17.	Working Space
18.	Use of the Site
19.	Order of Completion – Use of Completed Portion
20.	Permits, Surveys and Compliance With Laws
21.	Laying Out Work
22.	Survey Monuments
23.	Sanitary Regulations
24.	Report of Errors and Discrepancies
25.	Estimated Quantities
26.	Contractor's and Subcontractor's Insurance
27.	Proof of Carriage of Insurance
28.	Performance Bond
29.	Labor and Materials Bond
30.	Maintenance and Guarantee Bond
31.	Forfeiture of Contract
32.	Definition of Notice
33.	Additional or Omitted Work – Payment
34.	Deduction for Uncorrected Work
35.	Time Limit of Contract
36.	Extension of Time
37.	Estimates and Payments
38.	Fair Employment Practices Act

1. Contract Documents

The contract documents shall consist of the Notice to Bidder, Proposal, General Conditions, Specifications, Bonds, Plans, Drawings, Contract, and any additional documents which may be made a part of the contract.

2. Definitions

Certain terms, when used in the contract documents, shall be respectively defined as follows:

"City or Owner"	The City of Livonia.
"Contractor"	The person, firm or corporation to whom the within contract is awarded by the Owner and who is subject to the terms hereof.
"Subcontractor"	A person, firm or corporation, other than a Contractor, supplying labor and/or materials which contribute in any manner to performance of the within contract.
"Surety"	Any person, firm or corporation that has executed, as Surety, the Contractor's bonds securing the performance of the within contract.
"Director"	The Director of Public Works of the City of Livonia or any of his designated representatives.

3. Intent of the Contract Documents

The respective contract documents are complementary, so that requirements of any particular document shall be applicable to all. The contract price, as such term is used in the contract documents, shall include the cost of all superintendence, labor and materials, and all other expense necessary for the proper execution of the work.

The specifications, schedules, plans and drawings herein referred to shall be taken together to explain each other and to make the whole consistent. Work shown on a plan and not mentioned in the specifications, or vice versa, shall be performed as if shown by both; and, in case of conflict, the Director will determine which will govern. In case of ambiguity in the plans or specifications, the Director will decide as to the correct interpretation thereof. Where errors or omissions are encountered in the contract documents, the applicable sections of the current edition of the Wayne County's Road Commissioners General Specifications for Roads, Bridges, and Miscellaneous Construction shall prevail.

When not otherwise specifically defined in the contract documents, words therein which describe materials or work having a well-known technical or trade meaning, recognized by architects, engineers and the trade, shall be construed in accordance with such meaning.

4. Contract Drawings and Specifications

The contractor shall be held to have compared the premises with the contract drawings and specifications, prior to submitting a proposal, and to have fully informed himself as to the condition of the premises, existing structures, and any other condition affecting the carrying out of the work. No additional consideration or compensation will be allowed by reasons of obvious errors or omissions in the contract drawings or specifications.

Unless otherwise provided in the contract documents, the City will furnish the contractor, free of charge, copies of all contract drawings and specifications reasonably necessary to carry out the work.

All work shall strictly conform with the contract drawings and specifications, and the contractor shall not proceed without reference thereto.

Approved or conformed copies of the contract drawings and specifications shall be maintained at the work site by the contractor and be made available to the City at all times.

5. Shop Drawings

The contractor shall submit to the Director all shop or setting drawings and schedules required for the work, make any corrections therein required by the Director, and resubmit same without delay.

Approved or conformed copies of all shop or setting drawings shall be maintained at the work site by the contractor and be made available to the City at all times.

6. Soil Conditions

The contractor shall be held to have made his own determination of soil conditions on the premises, prior to submitting a proposal, and shall complete the work in whatever soil materials and under whatever conditions he may encounter or create, without additional cost to the owner. This shall apply whether or not borings are shown on the drawings.

7. "Or Equal" Clause

Whenever an article, material, or item of equipment is specified in any of the contract documents by describing a proprietary product, or by using the name of a manufacturer or vendor, the term "or equal," if not inserted, shall be implied.

The specified article, material, or equipment shall be understood as indicating the type, function, minimum standard of design, efficiency and quality desired and shall not be construed in such a manner as to exclude manufacturers' products of comparable quality, design and efficiency. The contractor shall comply with requirements in the contract documents relative to the City's approval of materials and equipment before they are incorporated in the work.

8. Patents and Infringements

The contractor agrees to indemnify and save the City, its servants and agents, harmless against any and all claims for royalties or infringements of patent rights in respect to tools,

appliances, equipment, processes, or systems of construction and materials made, furnished or used under this contract, and to defend at his own expense any and all suits at law or in equity which may be brought against the City, its servants or agents, for such claims; provided, however, that the City, its servants or agents, gives the contractor immediate notice in writing of the institution of such suit and authorizes him to defend the same, furnishing him with such reasonable assistance and available information as will enable him to so defend. The provisions of this paragraph shall be binding upon the parties hereto, notwithstanding anything to the contrary implied or expressed elsewhere in any of the contract documents.

9. Superintendence

The contractor shall give his personal superintendence to the work or always have at the site of the work a competent foreman, superintendent, or other representative who is satisfactory to the City and who has authority to act for the contractor.

10. Workers

The contractor shall employ only competent, efficient workers who are skilled in the work assigned to them and shall at all times enforce strict discipline and good order among his employees. Whenever the City shall notify the contractor, in writing, that in its opinion any worker so employed is careless, incompetent, disorderly, or otherwise unsatisfactory, such worker shall be relieved from the job and shall not again be employed thereon except with the written consent of the City.

11. Subcontracting

The contractor shall not subcontract any work to be performed or any materials to be furnished in the performance of this contract without the written consent of the City. If the contractor sublets any part of this contract, he shall be as fully responsible to the City for the acts and omissions of his subcontractors, and of the persons they directly or indirectly employed, as he is for the acts and omissions of his own employees.

12. Director's Status

The Director shall have general supervision and direction of the work, and authority to stop such work whenever necessary to insure proper performance of this contract. He shall also have authority to reject all work and materials which do not conform with the contract, to direct the application of forces to any portion of the work, as in his judgment is required, and to decide questions which arise in the course of such work.

13. Inspector's Status

The City may appoint on-the-job inspectors who shall be under the direction of the Director. Such inspectors will inform the Director as to the work progress, the manner in which it is being done, and the quality of materials being used. They will call the

contractor's attention to any observed failure to follow the plans and specifications. They shall have the authority to reject materials or workmanship which are defective and to suspend the work until any questions concerning compliance with the contract can be referred to and decided by the Director; but they shall have no authority to direct the contractor's work or workers, to supervise the contractor's operations or to change the contract plans or specifications.

In no instance shall any action or omission on the part of an inspector release the contractor from his responsibility to complete the work in accordance with the plans and specifications.

14. Inspection

The City and its representatives shall at all times have access to the work wherever it is in preparation or progress, and the contractor shall provide proper facilities for such access and for inspection.

The City shall have the right to reject materials and workmanship which are defective or to require their correction. Rejected workmanship shall be satisfactorily corrected, and rejected materials shall be promptly removed from the premises without charge to the City. If the contractor does not correct such condemned work and remove rejected materials within a reasonable time, fixed by written notice, the City may remove them and charge the expense to the contractor.

Should it be considered necessary or advisable by the City at any time before final acceptance of the entire work to make an examination of work already completed, by removing or tearing out same, the contractor shall, on request, promptly furnish any necessary facilities, labor and materials. If such work is found to be defective in any material respect, due to the fault of the contractor, or his subcontractors, he shall defray all the expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the contract, the actual cost of labor and material necessarily involved in the examination and replacement, plus 15%, shall be allowed the contractor.

15. Protection of Work

The contractor shall continuously maintain adequate protection of all his work from damage and shall protect the City's and adjacent property from injury arising in connection with this contract.

The work under this contract shall be at the risk of the contractor in every respect until finished and accepted by the City.

The contractor shall furnish and maintain necessary passageways, guard fences, lights and such other facilities and means of protection as may be needed.

16. Accident Prevention

Precaution shall be observed at all times for the protection of persons including employees and property. The safety provisions of applicable laws, as well as building and construction codes, shall be observed. Machinery and equipment shall be guarded, and all hazards guarded or eliminated, in accordance with the safety provisions of the Manual

of Accident Prevention in Construction, published by the Associated General Contractors of America, to the extent that such provisions are not in contravention of applicable laws.

Substantial barricades shall be erected as deemed necessary to prevent accidents to vehicular or pedestrian traffic, and red flags by day and red lights by night shall be diligently posted by the contractor at all points of possible danger. In case detours or other traffic instructions are necessary, suitable warning or direction devices shall be installed and maintained by the contractor.

Should the contractor fail to comply with any provisions of this contract, affecting the public welfare or safety, the City may, with or without notice, cause the necessary precaution to be taken and will deduct the cost of such work from any money due or to become due the contractor under this contract; but the performance of such work by the City, or at its direction, shall not release the contractor from his general or particular liability for the safety of persons or property.

17. Working Space

The contractor shall confine his equipment, apparatus, materials storage and operations to limits indicated by applicable laws, permits or directions of the City and shall not unnecessarily encumber the premises with his materials.

Should the contractor require space on privately owned property, he shall obtain such space at his own expense by agreement with the owner thereof.

18. Use of Site

In his operations, the contractor shall interfere as little as possible with traffic and shall in no case unduly obstruct traveled ways.

The contractor shall at no time interfere with surface or underground drainage. Free access shall be provided at all times to hydrants and water and gas valves.

The contractor shall enforce the City's instructions regarding signs, advertisements, fires and smoke.

19. Order of Completion – Use of Completion Portion

The contractor shall cooperate with the City, when reasonably possible, to complete any portion or portions of the work in such order of time as will be beneficial to the City without prejudice to the contractor's interests.

Use of a completion portion of the work by the City shall not be deemed as acceptance of the work so used or any part thereof.

20. Permits, Surveys and Compliance With Laws

The contractor shall secure and pay for all permits, fees and licenses (including such fees that may be assigned to the City of Livonia as permit holder) necessary for the performance of the work unless otherwise specifically provided in the contract documents.

The City shall furnish all surveys unless otherwise provided in like manner.

The contractor shall give all notices, pay all fees, and comply with all applicable laws, as well as rules and regulations bearing on the conduct of the work.

21. Laying Out Work

Principal reference lines or points and bench marks shall be given by the Director when he deems necessary; or he shall be given twenty-four (24) hours advance notice if the contractor requires such information.

The Director will set suitable stakes and marks showing the locations and elevations of the various parts of the work and will furnish the contractor with cut sheets referred to the reference points. No work shall be undertaken until such stakes and marks shall have been set. The contractor shall assure that the work at all times proceeds in accordance with the stakes and marks and shall provide all labor and materials to set required batter boards and locate the work accurately with respect to the reference points.

The contractor shall carefully preserve reference points and stakes; and, in case of willful or careless destruction thereof, he will be charged with the resulting expense and shall be responsible for any errors that may be caused by their loss or disturbance.

22. Survey Monuments

The contractor shall protect and preserve all land survey monuments or property corners along the line of his work. Where monuments or irons are unavoidably disturbed or removed due to operations under this contract, the contractor, at his own expense, shall employ the services of a registered land surveyor to establish, reset or replace such monuments or irons.

23. Sanitary Regulations

Necessary sanitary conveniences for the use of laborers on the work, properly secluded from public observation, shall be constructed and maintained in sanitary condition by the contractor; and their use shall be strictly regulated.

24. Report of Errors and Discrepancies

If, in the course of the work, the contractor finds any discrepancies between the plans and physical conditions encountered, or any errors or omissions in the plans or layout, it shall be his duty to immediately inform the Director in writing. Any work done after such discovery, until authorized by the Director, will be at the contractor's risk.

25. Estimated Quantities

The quantities of the various classes of work to be done and materials to be furnished under this contract, which have been estimated as stated elsewhere herein, are approximate and only for the purpose of comparing on a uniform basis the bids offered for the work under this contract; and neither the City nor its agents are to be held responsible should any of the estimated quantities be found incorrect during the performance of the work; and the contractor shall make no claim for anticipated profit, nor for the loss of profit, because of a difference between the quantities of the various classes of work actually done or materials actually delivered, and the estimated quantities as herein stated.

26. Contractor's and Subcontractor's Insurance

The contractor shall not commence work under this contract until he has obtained the insurance required under this paragraph, nor shall the contractor permit any subcontractor to commence work on his subcontract until he has obtained the insurance herein required.

- a. Worker's Compensation Insurance. The contractor shall procure and maintain during the life of this contract, Worker's Compensation Insurance for all of his employees who engage in the work to be performed; and, in any case any such work is sublet, the contractor shall require the subcontractor to provide similar insurance for all of the latter's employees who engage in the work.
- b. Contractor's Public Liability and Property Damage Insurance. The contractor shall procure and maintain during the life of this contract, Contractor's Public Liability and Property Damage Insurance in an amount not less than \$1,000,000 for injuries, including accidental death, to each person; and, subject to the same limit for each person, in an amount not less than \$1,000,000 on account for each accident; and in an amount not less than \$1,000,000 on account for each accident for damage to property.
- c. Owner's and Contractor's Protective Public Liability and Property Damage Insurance. The contractor shall procure and maintain during the life of this contract, Owner's and Contractor's Protective Public Liability and Property Damage Insurance, in the name of the City, in an amount not less than \$1,000,000 for injuries, including accidental death, to each person; and, subject to the same limits for each person, in an amount not less than \$1,000,000 for damage to property. Such insurance shall include motor vehicle exposure and specific coverage, by endorsement, which shall be described in the following manner:

"It is understood and agreed that such insurance as if afforded shall include specific coverage for the so-called Explosion, Collapse and Underground Hazards, which covers damage to property arising directly or indirectly from explosion, damage or structural injury to buildings or adjacent structures arising from operations under this contract, including excavation or tunneling and damage sustained by wires, conduits, mains, sewers and the like, occasioned by the contractor's subsurface operations."

- d. Subcontractor's Public Liability and Property Damage Insurance. The contractor shall require each of his subcontractors to procure and maintain during the life of their subcontract, Subcontractor's Public Liability and Property Damage Insurance in an amount not less than \$1,000,000 for injuries, including accidental death, to each person; and, subject to the same limit for each person, in an amount not less than \$1,000,000 on account for each accident; and in an amount not less than \$1,000,000 on account for each accident for damage to property.
- e. Contractor's Motor Vehicle Bodily Injury and Property Damage Insurance.
 - (1) The contractor shall procure and maintain during the life of this contract, Motor Vehicle Bodily Injury Insurance (Comprehensive Form) in an amount not less than \$1,000,000 for injuries, including accidental death, to each person; and,

subject to the same limit for each person, in an amount not less than \$1,000,000 on account for each accident; and in an amount not less than \$1,000,000 on account for each accident for damage to property.

- (2) The contractor shall procure and maintain during the life of this contract, Hired and Non-Ownership Motor Vehicle Bodily Injury and Property Damage Insurance in an amount not less than \$1,000,000 for injuries, including accidental death, to each person; and, subject to the same limit for each person, in an amount not less than \$1,000,000 for each accident; and in an amount not less than \$1,000,000 on account for each accident for damage to property.

27. Proof of Carriage of Insurance

The contractor shall provide the City, at the time this contract is returned by him for execution, the certificates listed below. A guarantee that thirty (30) days' notice will be given to the City prior to cancellation of, or change in, any insurance coverage shall be endorsed on each certificate:

- a. Four (4) copies of Certificate of Coverage of Contractor's Worker's Compensation Insurance.
- b. Four (4) copies of Certificate of Coverage of Contractor's Public Liability and Property Damage Insurance.
- c. Four (4) copies of Certificate of Coverage of Contractor's Motor Vehicle Bodily Injury and Property Damage Insurance covering owned, hired, and non-owned vehicles.
- d. Four (4) copies of Certificate of Coverage of Contractor's Protective Public Liability and Property Damage Insurance.

28. Performance Bond

The contractor, within fifteen (15) days from the date of acceptance of his proposal, shall execute in favor of the City a surety bond form in an amount at least equal to 100% of the contract price, as security for the faithful performance of this contract. Should the contract price not exceed \$50,000.00, the contractor may deposit with the City Clerk cash, a certified check or irrevocable bank letter of credit, or a surety bond, whichever the contractor selects, acceptable in form and content to the City Attorney, in the full amount of the contract.

29. Labor and Materials Bond

The contractor, within fifteen (15) days from the date of acceptance of his proposal, shall execute in favor of the City a surety bond form in an amount at least equal to 100% of the contract price, as security for the payment of all persons performing labor and furnishing materials in connection with this contract. Should the contract price not exceed \$50,000.00, the contractor may deposit with the City Clerk cash, a certified check or irrevocable bank letter of credit, or a surety bond, whichever the contractor selects, acceptable in form and content to the City Attorney, in the full amount of the contract.

30. Maintenance and Guarantee Bond

The contractor, as a condition precedent to final payment, shall execute in favor of the City, a Maintenance and Guarantee Bond in an amount at least equal to 100% of the contract price. The guarantee shall cover all work performed and materials furnished under this contract for a period of one (1) year subsequent to the date of the final payment.

31. Forfeiture of Contract

If the work to be done under the contract shall be abandoned by the contractor, or, if at any time in the judgment of the City, the contractor shall fail to perform the work at a reasonable rate of progress, or to comply with all or any of the terms and requirements herein set forth, then the City shall have the right to take possession of the work, including contractor's plant, supplies, and materials, at any time after having notified the contractor in writing to discontinue the work under this contract for said cause or causes, and such action shall not affect the right of the City to recover damages resulting from such abandonment or failure to perform. Upon receiving such notice, the contractor shall, upon demand, immediately give the City safe and peaceable possession of the work, including the plant, and shall then cease to have control over any portion thereof or the workers employed thereon.

The City may then proceed to complete the work herein specified, by contract or otherwise, and the entire cost incurred shall be charged to the contractor and deducted from any sum or sums due or to become due under the contract; the excess cost, if any, shall be paid to the City by the contractor or his sureties.

32. Definition of Notice

Where the contract documents provide for the giving of any notice, it shall be deemed to have been given:

- a. As to the City, when written notice shall have been delivered to the Director or the City Clerk, or shall have been placed in the U. S. mail, addressed to the City Clerk at the place where the bids or proposals for the contract were opened;
- b. As to the contractor, when written notice shall have been delivered to his chief representative then present at the site of the work, or shall have been placed in the U. S. mail, addressed to the contractor at his permanent place of business, as stated in the papers prepared by him to accompany his proposal; and
- c. As to the surety on a Performance Bond or Labor and Materials Bond, when a written notice shall have been placed in the U. S. mail, addressed to the surety at his home office or to the agents who executed such Performance Bond or Labor and Materials Bond on the surety's behalf.

33. Additional or Omitted Work – Payment

The City may authorize changes in, additions to, or deductions from the work to be performed or the materials to be furnished pursuant to the provisions of this contract.

Adjustments, if any, in the amounts to be paid to the contractor by reason of any such change, addition or deduction, shall be determined by one or more of the following methods:

- a. By unit prices contained in the contractor's original bid and incorporated in the contract.
- b. By a supplemental schedule of prices contained in the contractor's original bid and incorporated in the contract.
- c. By an acceptable lump sum proposal from the contractor.

34. Deduction for Uncorrected Work

If the City deems it expedient to accept work which has been damaged or not done in accordance with the contract, an equitable adjustment will be made so as to deduct from the contract price the cost of repairing or properly performing such work.

35. Time Limit of Contract

The parties hereto distinctly understand and agree that the time specified for completion of the work is the essence of this contract, and that the contractor shall not be entitled to claim the performance of this agreement unless the work is satisfactorily completed, in every respect, within the time herein specified.

36. Extension of Time

An extension of time may be granted by the City in the event of the work being delayed, beyond the prescribed time for completion, by carriers, the elements, general strikes, accidents or other causes not under the contractor's reasonable control. Such an extension of time shall be deemed to be in full compensation for any loss or injury sustained by the contractor because of delays caused as aforesaid, and the contract shall not thereby be invalidated in any respect.

37. Estimates and Payments

The City shall pay the contractor amounts bid in the proposal, or as modified by subsequent agreement, less deduction for any unsatisfactory or incomplete work, based upon measurements by the Director or as otherwise herein stipulated, and such measurements shall be final and conclusive.

The contractor shall submit to the City an application for each payment and shall submit a Contractor's Declaration stating that he has not performed any work, furnished any material, sustained any loss, damage or delay, for any reasons, including soil conditions encountered or created, or otherwise done anything for which he will ask, demand, sue for, or claim compensation from the City and, if required, shall submit receipts or other vouchers showing his payments for materials and labor, including payments to subcontractors.

Payments, based on progress estimates, will be made bi-weekly for ninety-five percent (5%) of the work completed, less any deductions or reservations which may be made in accordance with the terms of this contract, provided that the work is progressing

satisfactorily, all orders of the Director have been complied with, and the time of completion shall not have expired. No allowance will be made for materials furnished which have not been incorporated in the completed work, unless otherwise stated in the contract documents.

The City may withhold payment of any progress estimate, or portion thereof, until the contractor shall have furnished satisfactory evidence that he has paid all claims of every nature.

No payment shall be considered as acceptance of work completed, or any portion thereof, prior to completion of all work required by this contract and payment of the final estimate.

Within thirty (30) days after completion of all work required by this contract to the satisfaction of the City and the Director, in accordance with all and singular terms and stipulations herein contained, the City shall make final payment based upon a final estimate made by the Director. Before such payment is made, the contractor shall, as directed by the City, execute a Contractor's Affidavit that he has paid all claims of every nature, or secured a release from the surety or sureties approving payment. The final payment shall be considered as full approval and acceptance of the completed work herein specified.

Acceptance by the contractor of the final payment aforesaid shall operate as, and shall be, a release of the City and its agents, from all claims by and liability to the contractor for anything done, furnished for, or relating to the work, as well as any act or neglect of the City or of any person relating to or affecting the work.

38. Fair Employment Practices Act

- a. The contractor agrees that neither he nor his subcontractors will discriminate against any employee or applicant for employment, to be employed in the performance of this contract, with respect to his hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of his race, color, religion, national origin or ancestry.
- b. The contractor agrees that neither he nor his subcontractors will discriminate against any employee or applicant for employment to be employed in the performance of this contract, with respect to his hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of his age or sex, except where based on a bona fide occupational qualification.
- c. Breach of the covenants contained in either of the foregoing paragraphs may be regarded as material breach of this contract and may result in its cancellation, termination or suspension in whole or in part and in the contractor being declared ineligible to contract in the future with the City of Livonia.

CONTRACT

THIS CONTRACT, entered into this ____th day of ____ A.D. 2025 between the CITY OF LIVONIA, hereinafter referred to as the Owner, party of the first part, and _____ hereinafter referred to as the Contractor, party of the second part.

WITNESSETH, that the said Contractor, for the consideration mentioned in the various items set forth below, by these presents does agree that he will furnish all labor, materials, machinery, tools and equipment and do all things necessary for and incidental to the _____ together with appurtenances thereto, as set forth in certain Instructions to Bidders, Proposal, General Conditions, Specifications, Bonds, Plans, Drawings, and the following documents, all of which are attached hereto and made a part of this agreement.

Council Resolution # _____

IN CONSIDERATION WHEREOF, said Owner does agree to pay to said Contractor the sum not to exceed _____ Dollars (\$_____) based upon the amounts and sum listed in the Proposal.

For the faithful performance of all and singular terms and stipulations contained in this agreement, said parties respectively bind themselves, their heirs, executors, administrators, successors and assigns.

IN WITNESS WHEREOF, said parties have this day hereunto set their hands and seals, in triplicate.

Witness:

CITY OF LIVONIA, Owner

By _____

Maureen Miller Brosnan, Mayor

Lori Miller, City Clerk

X _____
Contractor

X _____

Approved:

Donald R. Rohraff
Director of Public Works

Director of Finance

Approved as to form:

Department of Law

Pursuant to Resolution # _____

Adopted by City Council on _____

CONTRACTOR'S AFFIDAVIT

State of Michigan)
) ss.
County of _____)

The undersigned Contractor, _____,
hereby represents that on _____ he (it) was awarded a
contract by the City of Livonia, Wayne County, Michigan, to _____

in accordance with the terms and conditions of Contract No. _____, and the said
contract has now been completed.

The undersigned hereby warrants and certifies that all of his (its) indebtedness arising
by reason of the said contract has been fully paid or satisfactorily secured; and that all
claims from subcontractors and others for labor and material used in accomplishing the
said project, as well as all other claims arising from the performance of the said
contract, have been fully paid or satisfactorily settled. The undersigned further agrees
that, if any such claim should hereafter arise, he (it) shall assume responsibility for the
same immediately upon request to do so by the said City of Livonia.

The undersigned, for a valuable consideration, the receipt of which is hereby
acknowledged, does waive, release and relinquish any and all claims or right of lien
which he (it) now has or may hereafter acquire upon the subject premises for labor and
material used in accomplishing said project owned by the said City of Livonia.

This affidavit is freely and voluntarily given with full knowledge of the facts, on this
day of _____, 20_.

Contractor

By _____

Title _____

Subscribed and sworn to before me on this
_____ day of _____, 20_____

Notary Public, State of Michigan, County of _____

My commission expires: _____

Acting in the County of _____

CONTRACTOR'S DECLARATION

I hereby declare that I have not, during the period _____
to _____ A.D. 20_____, performed any work, furnished
any material, sustained any loss, damage or delay for any reason, including soil condi-
tions encountered or created, or otherwise done anything for which I shall ask, demand,
sue for, or claim compensation from the City of Livonia, as Owner, or its agents, in addi-
tion to the regular items set forth in the contract numbered_____, and dated
_____, A.D. 20_____, for_____

executed between myself and the City of Livonia, and in the Change Orders for work
issued by the City of Livonia in writing as provided thereunder, except as I hereby make
claim for additional compensation and/or extension of time, as set forth on the itemized
statement attached hereto.

There is/is not an itemized statement attached.

The Contractor further certifies that all his indebtedness for labor and materials
incorporated in the work covered by this estimate has been fully paid and/or satisfactory
arrangements with materials suppliers have been made.

Contractor

By_____

Title_____

Date_____

PROOF OF INSURANCE FOR CITY OF LIVONIA

Information required by the Federal specifications for Highway construction and/or Act 327, P.A. of 1945 to verify insurance.

The subscribing insurance company certifies that insurance of the types and for limits of liability covering the work under contract with City of Livonia has been obtained by the contractor named below and that the City of Livonia is an additional insured as to all General Liability/commercial General Liability coverage. Such insurance, here certified, is written in accordance with the company's regular policies and endorsements subject to the company's applicable manuals or rules and rate, except (1) the insurance shall not be subject to the usual "x" – explosion, "c" – collapse or "u" – underground property.

The insurer shall agree to provide the City of Livonia, in writing, the following:

1. A 30-day prior notice of any insurer-initiated cancellation or reduction in coverage for reasons other than nonpayment of the premium.
2. A 10-day prior notice of any cancellation or reduction in coverage for nonpayment of the premium.
3. Immediate notice of Contractor's cancellation or reduction of coverage.

The contractor shall cease operations if any insurance is cancelled or reduced, and shall not resume operations until new insurance is in force.

NAME OF INSURED				
ADDRESS		CITY		STATE
TELEPHONE NO.		FAX NO.		

TYPE OF INSURANCE	POLICY NUMBER & NAME OF INSURANCE COMPANY (If more than one)	POLICY EFFECTIVE	DATES EXPIRATION	LIMITS: Each Occurrence: \$1,000,000 Aggregate: \$2,000,000 BODILY INJURY AND PROPERTY DAMAGE LIABILITY
☐ General Liability				General Aggregate \$
☐ Commercial General Liability				Prods. comp/ops Aggregate \$
☐ Claims Made ☐ Occurrence				Personal & Advertising Inj. \$
☐ \$_____ P.D. Deductible				Each Occurrence \$
☐ XCU Exclusion				Fire Damage (any one fire) \$
☐ Owners/Contractors Protective				Medical Exp. (any one person) \$
AUTOMOTIVE LIABILITY				Combined Single Limit (Minimum \$2,000,000.00) \$
☐ Any Auto				Bodily Injury (per person) (Minimum \$500,000.00) \$
☐ All Owned Autos				Bodily Injury (per accident) (Minimum \$1,000,000.00) \$
☐ Scheduled Autos				Property Damage (Minimum \$1,000,000.00) \$
☐ Hired Autos				Each Occurrence \$
☐ Non-Owned Autos				Aggregate \$
☐ Garage Liability				Each Occurrence \$
☐ Umbrella				Aggregate \$
☐ Excess Liability Other Than Umbrella				Each Occurrence \$
				Aggregate \$
WORKERS COMPENSATION AND EMPLOYERS LIABILITY				STATUTORY
				\$ (Each Accident)
				\$ (Disease- Policy Limit)
				\$ (Disease- Each Empl.)
☐ Other				

NAME OF AGENCY		NAME OF INSURANCE COMPANY (If only one for all policies)	
ADDRESS		CITY	STATE
TELEPHONE NO.		FAX NO.	

PROOF OF LIABILITY INSURANCE REQUIREMENT
CITY OF LIVONIA PROJECTS

Insurance *Carrier* letterhead
(NOT agent or agency letterhead)

SAMPLE

Date

City of Livonia
12973 Farmington Road
Livonia, MI 48150

Ref: **Name of Company (vendor)**
Carrier: **Name of Insurance Carrier**
Policy No: **number**
Policy Term: **START and END dates**

To Whom It May Concern:

Refer to attached certificate issued **(date)** and the following:

Notwithstanding the disclaimers on the referenced certificate, the coverages, coverage amounts, and expiration dates stated on the certificate are true and correct in all particulars, and the attached endorsement describes the notice the city of Livonia will receive prior to any change or cessation of coverage.

Sincerely,

Name
Title
Company

**PROOF OF LIABILITY INSURANCE REQUIREMENT
CITY OF LIVONIA PROJECTS**

THIS ENDORSEMENT CHANGES THE POLICY, PLEASE READ IT CAREFULLY

EARLIER NOTICE OF CANCELLATION PROVIDED BY US

Ref: **Name of Company (vendor)**
Carrier: **Name of Insurance Carrier**
Policy No: **number**
Policy Term: **START and END dates**

SAMPLE

Number of days' notice: **30**

For any statutorily permitted reason, the number of days required for notice of cancellation is increased to the number of days shown in the schedule above.

If this policy is cancelled by us we will send the named insured and any party listed in the following schedule, notice of cancellation based on the number of days' notice shown above.

SCHEDULE

Name of Person or Organization

The name of Person or Organization is any person or organization holding a certificate of insurance issued for you, provided the certificate:

1. Refers to this policy;
2. States that notice of:
 - a. Cancellation;
 - b. Nonrenewal, or
 - c. Material change reducing or restricting coverage;

Will be provided to that person or organization;

3. Is in effect at the time of the:
 - a. Cancellation
 - b. Nonrenewal; or
 - c. Material change reducing or restricting coverage; and
4. Is on file at your agent or broker's office for this policy.

Mailing Address

The mailing address is the address shown for that person or organization in that certificate of insurance.

CERTIFICATE OF INSURANCE FOR CITY OF LIVONIA PROJECTS

INSTRUCTIONS: All information must be submitted on Form 1304A. Any other form is invalid.

The undersigned insurance company certifies that insured the types and for limits of liability covering the work under contract with City of Livonia has been obtained by the contractor named below and that the City of Livonia is an additional insured under the policy as to all General Liability/Commercial General Liability coverage. Such insurance, tiered, is written in accordance with the company's regular policies and endorsements subject to the company's applicable manuals of rules and rates, except (1) the insurance shall not be subject to the usual Y - explosion, •E - collapse or V - underground property damage exclusions.

The insurer shall agree to provide the City of Livonia, in writing, the following:

1. A 30-day prior notice of any cancellation or reduction in coverage for reasons other than nonpayment of the premium.
2. A 10-day prior notice of any cancellation or reduction in coverage for nonpayment of the premium.
3. Immediate notice of cancellation or reduction of coverage.

"The contractor shall cease operations if any insurance is canceled or reduced, and shall not resume operation until new insurance is in force."

NAME OF INSURED

ADDRESS

CITY

STATE

ZIP CODE

TELEPHONE NO.

FAX NO.

ALL WORK PERFORMED FOR THE CITY OF LIVONIA AS A PRIME OR SUBCONTRACTOR

TYPE OF INSURANCE	POLICY NUMBER & NAME OF INSURANCE COMPANY (if more than one)	EFFECTIVE DATE	TERMINATION DATE	LIMITS; Each Occurrence: Aggregate: BODILY INJURY AND PROPERTY DAMAGE LIABILITY
General Liability				General Aggregate \$1,000,000
Commercial General Liability				Product/Completed Operations Aggregate \$2,000,000
Claims Made and Occurrence				Personal and Advertising Injury \$
\$ P.O. Deductible				Each Occurrence \$
Auto Exclusion				Fire Damage (any one fire) \$
Professional Liability				Medical Exp. (any one per \$00) \$
AUTOMOTIVE LIABILITY				Combined Single (Minimum \$2,000,000.00) \$
Automobile				Bodily Injury (per person) (Minimum \$500,000.00) \$
Owned Autos				Injury (per accident) (Minimum \$1,000,000.00) \$
Scheduled Autos				Damage (Aggregate \$1,000,000.00) \$
Hired Autos				Each Occurrence \$
Non-Owned Autos				Aggregate \$
Garage liability				Each Occurrence \$
Umbrella				Aggregate \$
Excess liability/other than Umbrella				Each Occurrence \$
				Aggregate \$
WORKERS COMPENSATION AND EMPLOYERS LIABILITY				STATUTORY
				\$ (Each Accident)
				\$ (Overall Policy Limit)
				\$ (Disease- Each Employee)
Other				
NAME OF AGENCY	NAME OF INSURANCE COMPANY (if only one of all policies)			
ADDRESS	CITY STATE ZIP CODE			
TELEPHONE NO.	FAX NO.			

CERTIFICATE OF INSURANCE FOR CITY OF LIVONIA PROJECTS

1.!!TransportalY.Jn

1304A (05/06)

CityC/LN011ia

INS"TRUCTIONS: Al infunnation must be submitted on Foon 1304A. Any other form is invalid.

The soosaibing insurance company certifies that insurance of the cypes and for imits of fiability C011ering the work undsr coniract with City of Livonia has lleen obtained by the contractor named below and that lthe City oi Livonia is an additional insured as to an Gelleral Liabltly Cormlerdal General Uability coverage Such insurance, hem certified, is lMiten in accordance with the company's regular policies and endoriementS subject to lthe company's appfic.able manuals of rules and rates, except (1) the insurance s".laNnot be subject lo the UStJal "x" • explosion, • e-- collapse or "u" - underground property damage exclusions.

The insurer shall agree to provide the City of Livonia, in WTiling. the followilg:

1. A 30-day prior notice of any ilsurer-initialed can:ellatioo or reduction in o,yerag& for reasons other than nonpayment of the premiura

2. A 10-day priorm:itice a any cancellation or reduction in w,erage for nonpayment of the premiun.

3. Immeaiate notice of Contraao s c:ancellation or ieduction of coverage.

T."le contra::lOrsllalcease operations if arry insurance is cance::ale,,l or reduced, and shall not rclSOO!e until new insurance is in fume.

NAM:: OF INSURED

THE SMITH COMPANY

ADDRESS

12345 AVENUE

CITY

LIVONIA

STATE

MI

ZIP CODE

12345

TELEPHONE NO.

(734) 123-4567

FAX NO.

ALL WORK PERFORMED FOR THE CITY OF LIVONIA AS A PRIME OR SUBCONTRACTOR

TYPE OF INSURANCE	POLICY NUMBER & NAME OF INSURANCE COMPANY (If more than one)	EFFECTIVE DATE	EXPIRATION DATE	LIMITS: Each Occurrence: Aggregate 800,000 INJURY AND PROPERTY DAMAGE LIABILITY
General Liability				General Aggregate \$2,000,000.00
Commercial General Liability				Prods. comp/ops Aggregate \$2,000,000.00
Claims Made Occurrence				Personal & Advertising Inj. \$1,000,000.00
Professional Liability				Professional Liability \$1,000,000.00
Fire & Theft				Fire Damage (any one fire) \$5,000.00
Automotive Liability				Combined Single Limit (Maximum \$2,000,000.00) \$2,000,000.00
Any Auto				Sodily Injury (per person) (Minimum \$500,000.00) \$500,000.00
All Owned Autos				Medical Expense (per accident) (Maximum \$1,000,000.00) \$1,000,000.00
Scheduled Autos				Property Damage (Maximum \$1,000,000.00) \$1,000,000.00
Limited Auto				Each Occurrence \$1,000,000.00
Non-Owned Auto				Aggregate \$1,000,000.00
Garage Liability				Each Occurrence \$1,000,000.00
Umbrella				Aggregate \$1,000,000.00
Workers Compensation and Employers Liability				Statutory 500,000.00 (Each Accident)
				\$500,000.00 (Disease - Limit)
				\$500,000.00 (Disease - Each Employee)
Other				
NAME OF AGENCY AMERICA'S INSURANCE COMPANY		NAME OF INSURANCE CCM/J.HY (If only one firm all parties)		
ADDRESS 121 STREET		CITY ALBANY CITY	STATE MT	ZIP CODE 54321
TELEPHONE NO. (734) 765-4321		FAX NO.		

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**ADVANCE NOTICE OF CANCELLATION,
NONRENEWAL OR COVERAGE REDUCTION OR
RESTRICTION PROVIDED BY US**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Person(s) or Organization(s)	Address
CITY OF LIVONIA	12973 FARMINGTON ROAD LIVONIA, MI 48150

Number of Days Notice 30

If this policy is cancelled (other than nonpayment of premium) or nonrenewed or if the coverage provided by this policy is reduced or restricted (except for any reduction in the Limits of Insurance due to claims payments), we will provide written notice to the person(s) or organization(s) listed in the Schedule.

We will provide this notice by mail 30 days in advance of any policy cancellation, nonrenewal or coverage reduction or restriction or as indicated in the Number of Days Notice in the Schedule.

All terms and conditions of this policy apply unless modified by this endorsement.

ADDITIONAL INFORMATION - IAH 11.04 INFORMATIONAL

SUBDIVISION - PERMITS OR AUTHORIZATIONS

OWNERS AND CONTRACTORS PROTECTIVE LIABILITY COVERAGE PART

State Or Governmental Agency Or Subdivision Or Political Subdivision:

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

All terms and conditions apply unless modified by this endorsement.

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that we, _____

as Principal, and _____
as Surety or Sureties, are held and firmly bound unto the CITY OF LIVONIA, Wayne
County, Michigan, in the sum of _____
Dollars (\$ _____) for the payment of which, well and truly to be made, we
hereby jointly and severally bind ourselves, our heirs, executors, administrators,
successors and assigns.

THE CONDITION of the foregoing obligation is such that, whereas the said _____
_____ did on the
_____ day of _____, 20____, by articles of that date, enter into a
contract with the said CITY OF LIVONIA for the construction of _____

NOW, THEREFORE, if the said _____
shall well and faithfully do and perform all things agreed to be done and performed by
said contract, according to the terms thereof, then this obligation shall be void, but
otherwise it shall remain in full force and effect.

PROVIDED, that any alterations which may be made in the terms of the contract
or in the work to be done under it, or the granting by the said CITY OF LIVONIA of any
extension of time for the performance of the contract or any other forbearance on either
the part of said CITY OF LIVONIA or the Principal, to the other, shall not in any way
release the Principal and the Surety or Sureties, or either, or any of them, their heirs,
executors, administrators, successors, or assigns, from their liability thereunder, notice
to the Surety or Sureties of any such alteration, extension or forbearance being hereby
waived.

WITNESS, our hands and seals, this _____ day of _____ 20_____.

Signed, sealed and delivered
In the presence of:

By _____

By _____

LABOR AND MATERIALS BOND

KNOW ALL MEN BY THESE PRESENTS, that we, _____

as Principal, and _____
as Surety or Sureties, are held and firmly bound unto the CITY OF LIVONIA, Wayne
County, Michigan, in the sum of _____
Dollars (\$ _____) for the payment of which, well and truly to be made, we
hereby jointly and severally bind ourselves, our heirs, executors, administrators,
successors and assigns.

THE CONDITION of the foregoing obligation is such that, whereas the said _____
_____ did on the
_____ day of _____, 20____, by articles of that date, enter into a
contract with the said CITY OF LIVONIA for the construction of _____
_____ and the payment for all labor and materials used therein.

NOW, THEREFORE, if the said _____
shall pay for all labor and materials used in the fulfillment of the said contract, and shall
pay all subcontractors doing work thereon, and shall indemnify and save harmless the
said CITY OF LIVONIA from and against all damages by reason of liens for labor and
materials furnished therefor, then this obligation shall be void, but otherwise it shall
remain in full force and effect.

PROVIDED, that any alterations which may be made in the terms of the contract,
or in the work to be done under it, or the granting by the said CITY OF LIVONIA of any
extension of time for the performance of the contract or any other forbearance on either
the part of said CITY OF LIVONIA or the Principal, to the other, shall not in any way
release the Principal and the Surety or Sureties, or either, or any of them, their heirs,
executors, administrators, successors, or assigns, from their liability hereunder, notice
to the Surety or Sureties of any such alteration, extension or forbearance being hereby
waived.

WITNESS, our hands and seals, this _____ day of _____, 20____.

Signed, sealed and delivered
in the presence of:

By _____

By _____

MAINTENANCE AND GUARANTEE BOND

KNOW ALL MEN BY THESE PRESENTS, that we, _____

as Principal, and _____

as Surety or Sureties, are held and firmly bound unto the CITY OF LIVONIA, Wayne
County, Michigan, hereinafter referred to as the CITY, in the sum of _____

Dollars (\$_____) for the payment of which, well and truly to be made, we
hereby jointly and severally bind ourselves, our heirs, executors, administrators,
successors, and assigns.

THE CONDITION of the foregoing obligation is such that, whereas the Principal
did on the _____ day of _____, 20____, by articles of that date, enter
into a contract with the CITY for the construction of _____

and, as a condition precedent to receiving final payment on said contract, to execute the
Bond herein described.

NOW, THEREFORE, the Principal guarantees that for a period of one (1) year
from the date of the final estimate he will, without cost to the CITY, keep in good order
and repair any defect in the work done under said contract by his employees, due to
improper materials, defective equipment, workmanship or arrangements, and that he
will likewise restore to good condition any work disturbed while correcting such defects,
excepting only such part or parts of said work which may have been disturbed without
his consent or approval after acceptance thereof by the CITY; and that whenever
directed to do so by the CITY, through written notice served personally or by mail upon
the Principal at _____

or upon the Surety or Sureties at _____

_____, he will proceed at once to make the repairs specified, and in
case of failure to do so, within one week from the date of service of said notice or such
additional time as may be fixed therein, the CITY shall have the right to purchase such

materials and employ such labor and equipment as may be necessary to undertake, do and make such repairs, and to be reimbursed by the Principal or Surety or Sureties for the full expense thereof. If it is necessary to make any repair or set a barricade at once to protect life and property, the CITY may take such action immediately, without notice to the Principal or Surety or Sureties. The CITY shall not be obligated to obtain the lowest bids for doing the work, or any part thereof, but all sums actually paid therefor shall be reimbursed by either the Principal or Surety or Sureties. In this connection, the judgement of the CITY shall be final and conclusive. If the Principal, for a period of one (1) year from the date of the final payment, shall keep the work done under the afore-said contract in good order and repair, excepting only such part or parts of said work which may have been disturbed without his consent or approval after acceptance thereof by the CITY, and shall, whenever given notice as herein provided, immediately proceed to make specified repairs, or, in default thereof, shall reimburse the CITY for expenses incurred in making such repairs, and shall fully indemnify, defend and save the CITY harmless from all suits and actions for damages of every name and description brought or claimed against it, for or on account of any injury or damage to person or property received or sustained by any party or parties, by or from any of the acts or omissions or through the negligence of the Principal's employees, agents, subcontractors or material suppliers in the performance of the work required by said contract, and from any and all claims arising under the Worker's Compensation Act of the State of Michigan, as amended, then the above obligation shall be void, otherwise to remain in full force and effect.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed by their respective authorized officers this _____ day of _____, A.D. 20 .

Signed, sealed and delivered
in the presence of:

_____	_____ (L.S.)
_____	_____ (L.S.)
_____	_____ (L.S.)

400 E. AIRPORT ROAD, STE E
ELGIN, IL 60123
800-447-6687 | www.dukes.com



REQUEST FOR PROPOSAL FOR

2025- 2028 CHEMICAL ROOT CONTROL PROGRAM WITH A TWO (2) YEAR OPTION

MAY 13, 2025

PREPARED FOR City of Livonia
33000 Civic Center Dr
Livonia, MI 48154

May 13, 2025

City of Livonia
33000 Civic Center Dr
Livonia, MI 48154

RE: 2025- 2028 Chemical Root Control Program with a two (2) Year Option

To Whom it May Concern,

Thank you for the opportunity to be of service to City of Livonia. Enclosed you will find a bid submission for the 2025- 2028 Chemical Root Control Program with a two (2) Year Option Bid scheduled to open on May 13, 2025.

Since 1979, Duke's has been a leader in the sewer industry for providing chemical maintenance services to extend the life of infrastructure. Duke's has a reputation for providing effective, proven methods for controlling sewer line root problems. More than 2,000 municipalities have used Duke's to effectively treat over 400 million LF of sewers. Since that time, we have expanded our offerings to meet the ever-growing needs of local governments with innovative and quality driven sanitary sewer evaluation services. To meet that need, we now have more than 450 talented sewer professionals at Duke's, many with over 20 years of direct sewer industry experience. We are ready to collaborate, manage, and execute this program within the timelines set forth by this project. Duke's provides the capacity and equipment to handle the scope of work, and we have the skilled data quality experts to assure data integrity from start to finish.

By partnering with Duke's, you are assured of:

An Experienced Team Dedicated to Quality and Customer Service: We have more than 22 years of experience on similar projects with numerous municipalities across the U.S. Your project is the type of work we do every day.

Your Costs Will Be Controlled: Key members from the Duke's executive team also serve as hands-on project managers and drive your project towards successful completion and comprehensive analysis. This translates to lower fees. We pride ourselves on our ability to accurately estimate a project and control costs for our clients.

Extensive In-House Equipment/Capabilities and Turn-Key Approach: Duke's has the in-house personnel, equipment, knowledge, and resources to ensure that the Owner receives a quality project. By using all inhouse resources, we have more control over the schedule, cost, and quality of your project.

Sincerely,

Valerie Kielp
Opportunity Coordinator
Duke's Root Control, Inc.

COMPANY SUMMARY

For more than 40 years, Duke's has assisted system operators in evaluating the overall condition of their facilities, identifying specific problems or shortcomings, and designing the improvements needed to address these concerns. We offer comprehensive in-house services, including inflow/infiltration (I/I) studies, flow metering/monitoring, rain gauge installation, data collection, sanitary sewer evaluation studies, condition assessment reporting, rehabilitation design, construction inspection and management, CCTV inspection and cleaning, and Geographic Information Systems (GIS) development.

LOCATIONS OF OFFICES SUPPORTING THE PROJECT

Duke's Root Control, Inc. is headquartered in Elgin, IL with 14 local branches across the country. Duke's has over 300 full-time employees across these offices including eight registered Professional Engineers and more than 60 employees with NASSCO PACP/MACP/LACP certification.



IN-HOUSE CAPABILITIES

CONDITION ASSESSMENT

- Gravity Sewer Cleaning
- NASSCO MACP Level I, II, & Manned-Entry Manhole Inspection
- Panoramic SI Manhole Scanning
- Video Inspection of Sewer Mains
- Sonar Inspection
- Smoke Testing
- Flow Monitoring and I/I Analysis
- Dye Testing
- Lateral Launch Video Inspection and Locating
- Investigator Water Main Video
- Fire Hydrant Flow Testing
- Sewer Evaluation Studies
- Condition Assessment Reports
- Preliminary Engineering

GIS AND SURVEYING

- GIS Population, Editing and Mapping
- GIS Support
- Plat and Easement Preparation
- Boundary, Utility, Topographic and Property Surveys

DESIGN

- Hydraulic Modeling
- Water Distribution
- Water Main Replacement
- Capacity Analysis
- Trenchless Sewer Rehabilitation
- Sewer Relocation
- Open-Cut Replacement
- Permitting
- Preparation of Construction
- Drawings and Specifications
- Bid Administration
- Grant Application and Administration

EXPERIENCE IN PROVIDING THE SERVICES

The Duke's staff proposed for this project has 22 years of experience in providing services such as this. Our company and its employees are focused on the evaluation and design of public utilities, specifically water, sanitary sewer, and storm water. We have performed hundreds of similar projects throughout our history.

We stake our reputation on our work and will stand accountable. Repeat work is predicated on our successes. Taking responsibility for our actions in the office and in the field to quickly resolve conflicts and issues is how we ensure successful projects no matter how difficult. Honest answers and the right solutions for our clients have qualified us to support and deliver on project goals. This has been our model for success as 90% of the business we do is repeat business with existing clients.

QUALITY OF PAST PERFORMANCE

Duke's has consistently met the budgets and schedules of our clients. Our goal is to go the extra mile for every client, to understand their needs and establish strong team relationships with Owners. We have a proven track record of meeting deadlines. We accomplish this, for example, by adding crews, supplementing staff, and reallocating resources. We ensure quality and safety on every project. *Finally, we believe that we are accountable to the people we serve - our clients and the communities in which we work, because ultimately they are the judges of our performance.*

QUALITY AND SERVICE

We have conducted numerous projects for municipalities throughout the US using these technologies and methods required for this study. While many other consultants leave cities with volumes of information and no direction, we differentiate ourselves in the following ways:

- **A rigorous Quality Assurance/Quality Control program** to reassure you that the information being gathered is appropriate, detailed, accurate, timely, and per budget. Our QA/QC plan involves multiple people reviewing the field data collected and comparing it to what was expected. Because we utilize in house staff resources for field work completion, this QA/QC process ensures completeness from field data collection through to analysis and reporting.
- **We realize that staff is an integral part of a diversified, well-balanced project team.** Therefore, staff will always know what's going on, where, and how long it will last. Progress meetings or phone calls will be held as appropriate to provide a schedule of planned upcoming activities, to summarize the work completed during the previous time frame, and to discuss any obstacles that have been encountered. Our business philosophy is to function as an extension of the owner's staff so that all parties are working towards a common goal. Our web based GIS tools are updated in a real time environment, so you will always know where our field team is working and progress we are making on your project. This service is free.

Submitted by: Duke's Root Control, Inc.
(Company name)

SEWER LINE CHEMICAL ROOT CONTROL PROPOSAL FORM (2025 - 2028)

PROPOSAL PRICE PAGE
(Submit with Bid)

Sewer line chemical root control, including all labor, materials, equipment and associated costs, shall be paid for at the unit price bid per linear foot of each size pipe. Unit prices are to be computed per linear foot manhole-to-manhole.

PIPE SIZE	UNIT PRICE PER LINEAR FOOT (2025 – 2028)	ESTIMATED FOOTAGE (LF)	TOTAL PRICE
6 inch	\$2.08	1,000	\$2,080.00
8 inch	\$2.08	1,000	\$2,080.00
10 inch	\$2.29	1,000	\$2,290.00
12 inch	\$2.50	1,000	\$2,500.00
15 inch	\$4.75	1,000	\$4,750.00
18 inch	\$6.82	1,000	\$6,820.00
21 inch	\$8.45	1,000	\$8,450.00
Additional Manholes*	\$190.55	1,000	\$190,550.00
Sum Total Price (in figures)			\$219,520.00

* Manholes not directly connected to main-line sections of pipe specified for treatment.

The Owner reserves the right to reject any or all bids. Bidders are cautioned not to attach any conditions, limitations, or provisions to the proposal as such conditions, limitations or provisions will render their bid informal and cause its rejection.

Submittals: Failure to enclose the following will render this bid non-responsive and result in the rejection of this bid. Indicate whether the following are enclosed.

Yes	No	
X		Proposal Price Page
X		Specimen Label
X		Safety Data Sheet
X		Pollution Liability Insurance Certificate
X		Environmental Hazard Submittal
X		Contractor's Qualification Page
X		Contractor's Reference Page
X		Pesticide Applicator Experience Submittal
X		Confined Space Entry Certificates

SEWER LINE CHEMICAL ROOT CONTROL PROPOSAL FORM (2025 - 2028)

**ENVIRONMENTAL HAZARD SUBMITTAL
(Submit With Bid)**

Complete the following questionnaire with respect to the product submitted for use by the bidder.

1. Check the US EPA classification for the submitted product.

Restricted use ____ General use X

2. What are the Active Ingredients in the product submitted? Diquat

3. Check the classification the U.S. Environment Protection Agency has assigned to the active ingredient(s) in your product with regards to whether it causes cancer:

✓	1985 Classification
	Human carcinogen
	Probable human carcinogen
	Possible human carcinogen
	Not classifiable as to Human Carcinogenicity
	Evidence of Non-carcinogenicity for humans

✓	2005 Classification
	Carcinogenic to humans
	Likely to be carcinogenic to humans
	Suggestive evidence of carcinogenic potential
	Inadequate information to assess carcinogenic potential
	Not likely to be carcinogenic to humans

4. Volatile organic compounds (VOC) present an inhalation exposure hazard to humans. Does the product submitted contain active herbicide(s) that are considered (VOC) at ambient temperatures? Yes ____, No X.

If yes, list the volatile herbicide(s) below: _____

Submitted by: Duke's Root Control, Inc.
(Company name)

SEWER LINE CHEMICAL ROOT CONTROL PROPOSAL FORM (2025 - 2028)

**CONTRACTOR'S QUALIFICATION SUBMITTAL
(Submit With Bid)**

Failure to complete this page in full, and to provide valid, existing licenses and insurance, as required, will render this bid non-responsive and result in the rejection of this bid.

Contractor name: Duke's Root Control, Inc.

Street Address: 400 Airport Road, Suite E

City/State/Zip: Elgin, IL 60123

Contractor's State Pesticide Business license #: 990006

Contractor US DOT #: 1559146

Brand name of proposed chemical root control product: Razorooter

US EPA root control product registration #: 94625-3

State root control product registration #: 2182

Does the Contractor have pollution liability insurance as specified? Yes X No

Contractor's pollution liability insurance carrier: Nautilus Insurance Company

What is the current a.m. best rating for your pollution insurance carrier? A+XV

Using the product submitted, does the Contractor have:

1. A minimum of 5 years of experience. Yes X No
2. A total of 500,000 linear feet completed in the specified type of work. Yes X No
3. Completed three other jobs, each consisting of more than 50,000 linear feet,
which can the owner verify? Yes X No

Is a product label and Safety Data Sheet (SDS) attached? Yes X No

As per the federal code 29 CFR 1910.146, are certificates of completion in confined space entry training attached for all pesticide applicators listed below? Yes X No

**Contractor's State Certified Pesticide Applicators
(List 3 minimum)**

1. Name: David Giocondo Certification #: C006130420 Years of Experience: 10+

2. Name: Gary Roberts Certification #: C00699043 Years of Experience: 10+

3. Name: Michael Lotito Certification #: C006990428 Years of Experience: 10+

Submitted by: Duke's Root Control, Inc.
(Company name)

SEWER LINE CHEMICAL ROOT CONTROL PROPOSAL FORM (2025 - 2028)

**CONTRACTOR'S ROOT CONTROL REFERENCE PAGE
(Submit With Bid)**

The Contractor must submit three municipal references of similar scope using the product submitted, which the owner can verify.

Owner/Agency:	City of Wyandotte
Address:	4201 13th Street
City, State, Zip:	Wyandotte, MI 48192
Contact & Phone:	Jon Allen, (734) 324-4583
Footage Treated:	100,000 LF +
Date of Treatment:	Ongoing, Multi-Year

Owner/Agency:	City of Midland
Address:	2125 Austin Street
City, State, Zip:	Midland, MI 48642
Contact & Phone:	Ryan Ives, (989) 837-3507
Footage Treated:	100,000 LF +
Date of Treatment:	Ongoing, Multi-Year

Owner/Agency:	City of Fenton
Address:	301 South Leroy
City, State, Zip:	Fenton, MI 48430
Contact & Phone:	Scott Gordon, (810) 629-2261
Footage Treated:	100,000 LF +
Date of Treatment:	Ongoing, Multi-Year

Only experienced Contractor's in this type of work will be considered for award. Failure to provide sufficient verifiable references will result in the rejection of this bid.

SEWER LINE CHEMICAL ROOT CONTROL PROPOSAL FORM (2025 - 2028)

**PESTICIDE APPLICATOR SUBMITTAL
(Submit With Bid)**

Complete this form for each qualified Certified Applicator. Make copies, as necessary.

License Information

Applicator's Name: David P Giocondo

Pesticide Applicators License #: C006130420

State Issuing Pesticide Licensing: Michigan

Date License Issued: _____ Date License Expires: 12/31/2025

Name of Licensing Agency: Dept. of Agriculture Phone: _____

Copy of License Submitted with Bid (Yes, No)? X

Applicator's Experience Obtained with above License

Owner (Name of Municipality)	Date Complete	Footage Treated
------------------------------	---------------	-----------------

Duke's Root Control applicators are licensed in many states throughout the Country. A fully compiled list can be provided upon award.

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Total Footage Treated under this License:	<u>200,000 LF+</u>
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GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF AGRICULTURE
AND RURAL DEVELOPMENT

DR. TIM BORING
DIRECTOR

DAVID P GIOCONDO
400 AIRPORT RD SUITE E ATTN:TEMPESTT COLEMAN
ELGIN IL 60123-

August 21, 2023

Dear Applicant:

Congratulations on becoming a commercially certified pesticide applicator. Enclosed please find your pesticide credential issued by the Michigan Department of Agriculture and Rural Development (MDARD), Pesticide and Plant Pest Management Division.

Listed below are the results of your examinations. A score of 70% is required to pass. Passing score(s) are identified with a "P".

Category(ies) which are applied for and were not successfully completed within your application period are designated incomplete. Incomplete category(ies) have been deleted from your certification. You may wish to be issued for the category(ies) which you desire certification or registration in a category. You may reapply by submitting the appropriate application. The addition of categories will not change your certification. Violation of state law to apply a pesticide in a category not certified or registered.

If you have any questions regarding your credential, please call 284-5653.

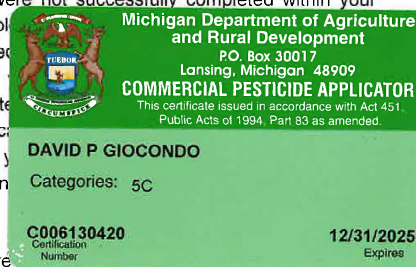
Be advised, your pesticide certification does not allow you to make commercial pesticide applications for hire without a pesticide applicator business license (PABL). For more information, please contact Stephanie Baughan at BaughanS9@michigan.gov.

REMEMBER: Always use pesticides only in accordance with the label!

CERTIFICATION NUMBER: 006130420

EXAM RESULTS: (P = Pass I = Incomplete)

CO	SEM	P
5C	SEM	P



ROOT CONTROL INFORMATION

Duke's Root Control, Inc.

RAZORROOTER®

SAFETY DATA SHEET

Page 1 of 7

SECTION 1: PRODUCT IDENTIFICATION

Product Identity: **RAZORROOTER®**

Use: Herbicide

Manufacturer: Duke's Root Control, Inc.
1020 Hiawatha Blvd., West
Syracuse, NY 13204

Manufacturer Phone: 315-472-4781

Current Revision: 08/07/2019

Emergency Telephone Number: **Transportation (24 Hours) CHEMTREC: 800-424-9300**
Outside the United States call 202-483-7616 (collect calls accepted.)

FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE CALL PROSAR 1-800-391-2584

SECTION 2: HAZARDS IDENTIFICATION

Classifications: Corrosive to Metals: Category 1
Oral: Category 4
Inhalation: Category 3
Specific target Organ Toxicity: Repeated Category 2
Eye Damage/Irritation: Category 2B

Signal Word (OSHA) Danger

Hazard Statements: May be corrosive to metals
Harmful if swallowed
Causes eye irritation
Toxic if inhaled
May cause damage to organs through prolonged or repeated exposure

Hazard Symbols:



Precautionary Statements: Keep only in original container.
Do not breath mist, vapors, spray.
Wash hands and face thoroughly after handling.
Do not eat drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
If swallowed: Call a poison center, doctor or Prosar if you feel unwell. Rinse mouth.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if Present and easy to do. Continue rinsing.
Call a poison center, doctor or Prosar.
Get medical advice if you feel unwell.
See Section 4 First Aid Measures.

Duke's Root Control, Inc.

RAZORROOTER®

SAFETY DATA SHEET

Page 2 of 7

SECTION 2: HAZARDS IDENTIFICATION (cont'd)

If eye irritation persists: Get medical advice.
Absorb spillage to prevent material damage.
Store locked up.
Store in corrosive resistant plastic, plastic-lined steel, stainless steel or fiberglass container.
Dispose of contents and container in accordance with local regulations.

Other Hazard Statements: Flammable hydrogen gas may be formed on contact with incompatible metals.
See "Conditions to Avoid", Section 10..

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Common Name	CAS Number	Concentration
Other Ingredients	Other Ingredients	Trade Secret	62.7%
[6,7-dihydrodipyrido(1,2-a:2',1'-c)pyrazinediium dibromide]	Diquat Dibromide	85-00-7	37.3%

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

SECTION 4: FIRST AID MEASURES

Have the product container, label or Safety Data Sheet with you when calling Prosar (800-391-2584), a poison control center or doctor, or going for treatment.

Ingestion: If swallowed: Call Prosar (800-391-2584), a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so after contacting Prosar (800-391-2584) or by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Eye Contact: If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call Prosar (800-391-2584), a poison control center or doctor for treatment advice.

Skin Contact: If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call Prosar (800-391-2584), a poison control center or doctor for treatment advice.

Inhalation: If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call Prosar (800-391-2584), a poison control center or doctor for further treatment advice.

Most important symptoms/effects: Eye irritation

Indication of immediate medical attention and special treatment needed:

To be effective, treatment for ingestion of the product must begin IMMEDIATELY. Treatment consists of binding the active ingredient, diquat, in the gut with suspensions of activated charcoal or bentonite clay, administration of cathartics to enhance elimination and removal of diquat from the blood by charcoal hemoperfusion or continuous hemodialysis.

Duke's Root Control, Inc.

RAZORROOTER®

SAFETY DATA SHEET

Page 3 of 7

SECTION 5: FIRE FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media:

Use dry chemical, foam or CO2 extinguishing media. If water is used to fight fire, dike and collect runoff.

Specific Hazards:

This product may form flammable and explosive hydrogen gas when in contact with aluminum.

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

Special protective equipment and precautions for firefighters:

Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures:

Follow exposure controls/personal protection outlined in Section 8.

Methods and materials for containment and cleaning up:

Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems, or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. Cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container, and arrange for disposition.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling:

This product reacts with aluminum to produce flammable hydrogen gas. Do not mix or store in containers or systems made of aluminum or having aluminum fittings.

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Conditions for safe storage, including any incompatibilities: Store locked up

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS CONSULT THE PRODUCT LABEL.

Occupational Exposure Limits:

Chemical Name	OSHA PEL	ACGIH TLV	Other	Source
Other Ingredients	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Diquat Dibromide	Not Established	0.5 mg/m ³ TWA	0.5 mg/m ³ TWA (0.5 Total; 0.08 respirable)	Manufacturer

Duke's Root Control, Inc.

RAZORROOTER®

SAFETY DATA SHEET

Page 4 of 7

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (cont'd)

Appropriate engineering controls:

Use effective engineering controls to comply with occupational exposure limits (if applicable).

Individual protection measures:

Ingestion:	Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.
Eye Contact:	Where eye contact is likely, use chemical splash goggles.
Skin Contact:	Where contact is likely, wear chemical-resistant gloves (such as barrier laminate, butyl rubber, Nitrile rubber, neoprene rubber, natural rubber, polyvinyl chloride [PVC] or Viton), coveralls, socks and chemical-resistant footwear.
Inhalation:	A respirator is not normally required when handling this substance. Use effective engineering controls to comply with occupational exposure limits. In case of emergency spills, use a NIOSH approved respirator with any N, R, P or HE filter.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Dark brown liquid
Odor:	Odorless
Odor Threshold:	Not Available
pH:	4 - 6
Melting point/freezing point:	Not Applicable
Initial boiling point and boiling range:	Not Available
Flash Point (Test Method):	Not Applicable
Flammable Limits (% in Air):	Not Available
Flammability:	Not Applicable
Vapor Pressure:	Diquat Dibromide <10(-8) mmHg @ 77°F (25°C)
Vapor Density :	Not Available
Relative Density :	1.202 g/ml @ 68°F (20°C)
Solubility (ies):	Diquat Dibromide 718,000 mg/l @ 68°F (20°C) and pH 7.2
Partition coefficient:	n-octanol/water: Not Available
Autoignition Temperature:	Not Applicable
Decomposition Temperature:	Not Available
Viscosity:	Not Available
Other:	None

Duke's Root Control, Inc.

RAZORROOTER®

SAFETY DATA SHEET

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SECTION 10: STABILITY AND REACTIVITY

Reactivity: Not reactive.

Chemical stability: Stable under normal use and storage conditions.

Possibility of hazardous reactions: Will not occur.

Conditions to Avoid: Concentrate should not be stored in aluminum containers. Spray solutions should not be mixed, stored or applied in containers other than plastic, plastic-lined steel, stainless steel or fiberglass.

Incompatible materials: None known.

Hazardous Decomposition Products: Flammable hydrogen gas may be formed on contact with aluminum. See "Conditions to Avoid", Section 10.

SECTION 11: TOXICOLOGICAL INFORMATION

Health effects information

Likely routes of exposure: Dermal, Inhalation

Symptoms of exposure: Eye irritation

Delayed, immediate and chronic effects of exposure: Eye irritation

Numerical measures of toxicity (acute toxicity/irritation studies [finished product])

Ingestion: Oral (LD50 Female Rat): 886 mg/kg body weight
Dermal: Dermal (LD50 Rabbit): > 5050 mg/kg body weight
Inhalation: Inhalation (LC50 Rat): 0.62 mg/l air – 4 hours
Eye Contact: Mildly Irritating (Rabbit)
Skin Contact: Slightly Irritating (Rabbit)
Skin Sensitization: Not a Sensitizer (Guinea Pig)

Reproductive/Developmental Effects

Diquat Dibromide: Mutagenicity: No evidence in in vivo assays
Development Toxicity: In rabbit studies a small percentage of fetuses had minor defects at 3 and 10 mg ion/kg/d.

Chronic/Subchronic Toxicity Studies

Diquat Dibromide: Kidney weight decreases and cataracts seen in dogs at 12.5 mg ion/kg/d
No evidence for neurotoxic effects in rats dosed up to 400 ppm ion in diet for 13 weeks

Carcinogenicity

Diquat Dibromide: No evidence of carcinogenicity in rat and mouse studies.

Chemical Name	NTP/IARC/OSHA Carcinogen
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Other ingredients	No
-------------------	----

[6,7-dihydrodipyrido(1,2-a:2',1'-c)pyrazinedium dibromide]	No
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Duke's Root Control, Inc.

RAZORROOTER®

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SAFETY DATA SHEET

SECTION 11: TOXICOLOGICAL INFORMATION (cont'd)

Other Toxicity Information None

Toxicity of Other Components

Other ingredients Not Applicable

Target Organs

Active ingredients Diquat Dibromide: Eye, kidney

Inert ingredients Other ingredients: Not Applicable

SECTION 12: ECOLOGICAL INFORMATION

Eco-Acute Toxicity Diquat Dibromide: Fish (Rainbow Trout) 96- hour LC50 14.83 ppm
Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 0.77 ppm
Green Algae 4-day EC50 9.4 ppb
Bird (Mallard Duck) 14-day LD50 60.6 mg/kg

Environmental Fate Diquat Dibromide: The information presented here is for the active ingredient,
diquat dibromide. Stable in soil and water. Immobile in soil.
Sinks in water (after 24 h)

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal: Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

Characteristic Waste: Not Applicable

Listed Waste: Not Applicable

SECTION 14: TRANSPORT INFORMATION

DOT Classification Ground Transport – NAFTA
Proper Shipping Name: Corrosive Liquid, N.O.S. (Diquat Dibromide)
Hazard Class: Class 8
Identification Number: UN 1760
Packing Group: PG III

Comments Water Transport International
Proper Shipping Name: Corrosive Liquid N.O.S. (Diquat Dibromide), Marine Pollutant
Hazard Class: Class 8
Identification Number: UN 1760
Packing Group: PG III

Air Transport
Proper Shipping Name: Corrosive Liquid, N.O.S. (Diquat Dibromide)
Hazard Class: Class 8
Identification Number: UN 1760
Packing Group: PG III

SECTION 15: REGULATORY INFORMATION

Duke's Root Control, Inc.

RAZORROOTER®

SAFETY DATA SHEET

Page 7 of 7

Pesticide Registration:

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheet, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Caution: Harmful if inhaled. Harmful if swallowed. Causes moderate eye irritation. Avoid breathing spray mist. Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Avoid contact with eyes or clothing. Wear protective eyewear. Wear long sleeve shirt and long pants, socks, shoes and gloves.

EPA Registration Number: 94625-3

EPCRA SARA Title III Classification:

Section 311/312 Hazard Classes: Acute Health Hazard

Section 313 Toxic Chemicals: None

California Proposition 65 None

CERCLA/SARA 304 Reportable Quantity (RQ)

Report product spills $\geq$ 268 gal. (based on diquat [RQ = 1,000 lbs.] content in the formulation)

RCRA Hazardous Waste Classification (40 CFR 261)

Not Applicable

TSCA Status

Exempt from TSCA, subject to FIFRA

SECTION 16: OTHER INFORMATION

NFPA Hazard Ratings

Health: 2
Flammability: 1
Instability: 0

HMIS Hazard Ratings

Health: 2
Flammability: 1
Reactivity: 0

0 Minimal
1 Slight
2 Moderate
3 Serious
4 Extreme
* Chronic

Original Issued Date: 4/11/2002
Revision Date: 6/1/2015

Replaces: 11/10/2014

Sections Revised: 1-16

Duke's Root Control, Inc. believes that the information and recommendations contained herein (including data and statements) are accurate as of the date thereof. NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY, OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE CONCERNING THE INFORMATION PROVIDED HEREIN. The information provided herein relates to the specific product designated and may not be valid where such product is used in combination with any other materials or in any process. Further, since the conditions and methods of use of the product and of the information referred to herein are beyond the control of Duke's Root Control, Inc., Duke's Root Control, Inc. expressly disclaims any and all liability as to any results obtained or arising from any use of the product or reliance on such information.

PRECAUTIONARY STATEMENTS
Hazards to Humans

CAUTION: Harmful if inhaled. Harmful if swallowed. Causes moderate eye irritation. Avoid breathing spray mist. Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Avoid contact with eyes or clothing. Wear protective eyewear. Wear long sleeve shirt and long pants, socks shoes and gloves.

- Applicators and other handlers must wear:
 - Coveralls over short-sleeved shirt and short pants.
 - Chemical resistant gloves.
 - Chemical-resistant footwear plus socks.
 - Protective eyewear.
 - Chemical-resistant apron when cleaning equipment, mixing or loading.
 - A dust/mist filtering respirator (MSHA/MOSH approval number prefix TC-21C).

EXCEPTION: If a closed system is used during mixing, dilution, product transportation, and cleaning, and applications will be made to closed, subsurface sewers and drains, and the product will be diluted in the closed system with water at a ratio of at least 1 part product to 50 parts water prior to use, then applicators, mixers, loaders, and other handlers may wear:

- Emergency Information**
For spill, leak, fire, exposure, or accident, call CHEMTREC at 1-800-424-9300.

This pesticide is toxic to aquatic invertebrates. Keep out of lakes, ponds, and streams. Do not apply directly to water bodies, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance. Keep off lawns and plants, as they may be severely injured. Foam should be shoveled off planted areas immediately rather than washing off with water.

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

STORAGE & DISPOSAL

Do not contaminate water, food or feed by storage, disposal or cleaning of equipment. Open dumping is prohibited.

Pesticide Storage: Keep pesticide in original container. Do not put concentrate or dilute into food or drink containers. Do not contaminate feed, foodstuffs or drinking water. Do not store or transport near feed or food. Store at temperature above 32°F. For help with any spill, leak, fire or exposure involving this material, call CHEMTREC

Container Precautions: Before refilling, inspect thoroughly for damage, such as cracks, punctures, bulges, dents, abrasions and damaged or worn threads on closure devices. Refill only with RAZOROOTER®. The contents of this container cannot be completely removed by cleaning. Refilling with materials other than RAZOROOTER® will result in contamination and may weaken container. After filling and before transporting, check for leaks. Do not refill or transport damaged or leaking container.

DRC and Seller warrant that this product conforms to its chemical description and is reasonably fit for the purpose stated on the label when used in accordance with the directions and instructions specified on the label under normal conditions of use, but neither this warranty nor any other warranty of merchantability or fitness for a particular purpose,

RAZORROOTER® is a trademark of DRC.

1. *Journal of the American Medical Association*, 1997; 277: 1001-1005.

FOR USE TO CONTROL
TREE ROOT INTRUSIONS IN
SANITARY SEWERS, STORM DRAINS,
AND OTHER DRAINAGE SYSTEMS

KEEP OUT OF REACH OF CHILDREN

FIRST AID	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
In eyes:	Hold eye open and rinse slowly and gently with water for 15-20 minutes.

- Call a poison control center or doctor for treatment advice.
- Call a poison control center or doctor immediately for treatment advice.
- Have a person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to do so by the poison control center or doctor.

inhaled:	• Call a poison control center or doctor for treatment advice. • Move person to fresh air. • If person is not breathing call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.
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Note to Physician: Call ProSAR 1-800-391-2584 at any hour to obtain toxicology information and

EPA Reg. No. 94625-3 Made in U.S.A.

1020 Hiawatha Blvd. West
Syracuse, NY 13204

Net Contents 30 Gallons

RAZOROOTER® is uniquely suited to sewer applications. RAZOROOTER® is a soluble liquid designed to control tree roots in sewer, on contact. RAZOROOTER® is a non-selective herbicide, which works on all varieties of tree roots and will not harm above-ground vegetation, when applied according to label instructions. RAZOROOTER® is not volatile, and will not produce toxic gases.

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other

RAZOROOTER® may be applied directly to sewers either as a high-pressure spray or as a foam. RAZOROOTER® may be applied in conjunction with herbicides, surfactants and foaming agents available through DRC.

MIXING INSTRUCTIONS

Before mixing, determine the scope of work, including pipe size and overall lineal footage, while assessing field conditions. Using the charts

SMALL DIAMETER PIPES	
TOTAL GALLONS	TREATMENT AREA (LINEAL FEET) PER PIPE DIAMETER

LARGE DIAMETER PIPES

Prepare solution by mixing at a rate of 2 quarts of RAZORROOTER® per 100 gallons of water. Use only clean, fresh water to prepare the solution. Prepare

If foaming method will be used, add the amount of foaming agent required produce 20 gallons of foam per gallon of solution, as prepared above.

Prepared RAZOROOTER® solution may be sprayed into sewers at various pressures and flow rates, depending upon the capabilities of the application equipment. Do not exceed the equipment manufacturer's recommendations for pressures and flow rates.

Treat large pipes (15" or larger in diameter) with a hose fitted with skids designed to elevate the discharge nozzle. This will center the discharge nozzle in the pipe and enhance performance. Contact DRC to obtain skids, if needed.

FOAM APPLICATION

Mixing prepared RAZOROOTER® solution with foam during

Begin at downstream sections of the area to be treated. Insert the spray discharge hose through the length of the pipeline intended for treatment. Spray the prepared RAZOROOTER® solution and foam under pressure as the hose is retrieved.

Building Laterals: Building laterals may be treated using the

GUARANTEE

We guarantee to kill all the roots in every sewer we treat and to eliminate the main line stoppages caused by live tree roots.

If live roots are found in a sewer within six months after the application, or if a treated sewer plugs up and floods due to tree roots during the guarantee period (see below), **we will re-treat that section, at our own expense, or remit to the customer 100% of the payment we received to treat that section of sewer.**

The decision of the customer as to the cause of the plug-up is binding.

This guarantee applies only to sewer stoppages caused by live tree roots. It does not apply to stoppages caused by grease or other foreign matter; flat, collapsed or deformed pipe; or flooding caused by a surcharged or plugged sewer section downstream from a guaranteed sewer section. **This guarantee applies to main line sewers only.**

Guarantee Period

Any section of sanitary sewer we treat will not plug up and flood due to tree root obstructions for a period of **two years**. The guarantee period begins on the date of treatment, and ends two years after the date of treatment.

Extended Guarantee With Repeat Treatments

Whenever we perform a repeat application to a section of sewer within six months of the expiration of the previous guarantee, the guarantee is extended for an **additional three years**. Re-treatments, performed at no charge in honor of the guarantee, do not extend the expiration date of the guarantee.

Liability

Duke's is an insured, fully licensed pesticide application company, and is certified to apply EPA-registered herbicides to sanitary sewers in compliance with Federal and State regulations. Duke's accepts responsibility for any damage to above-ground vegetation. Duke's is not responsible for damages caused by sewer stoppages.



1020 Hiawatha Blvd., West • Syracuse, NY 13204-1131
800-447-6687 • Local (315) 472-4781 • Fax (315) 475-4203 • dukes.com



ROOT CONTROL

Duke's utilizes Razorooter™, a herbicide-laden, thick foam the consistency of heavy shaving cream. Since effectively killing roots in sewer systems requires access to the entire line, Duke's crew inserts a hose from manhole to manhole. The hose releases and sprays the foam in all directions, allowing it to adhere to roots and penetrate through wye connections to kill roots even in lateral lines. The entire system is treated as the foam compresses against pipe surfaces and penetrates cracks, joints and connecting sewers. Roots are killed on contact inside and outside the pipe walls, decay naturally and slough away, with regrowth delayed for two to three years. Trees and other above ground vegetation are not harmed.



ALTERNATIVE SOLUTIONS: EXPENSIVE, DISRUPTIVE & NO GUARANTEE

Replacing or lining a pipe is another option; however, it is expensive, can be disruptive and doesn't guarantee the thirsty roots won't find their way through the pipe once again. Mechanical root removal involves physically cutting away roots, which can damage pipes and lead to thicker regrowth, often requiring more frequent cutting.

Regardless of the method used, the best root control program is one that minimizes damage and costs through regular, proactive maintenance. Duke's exclusive root control product is translocated up the roots with each application. This preventive maintenance prolongs the life of pipes, providing substantial cost savings in the long run.

"Duke's solves maintenance problems. I have worked with them directly for many years on several projects, and I've seen the exceptional results firsthand. I have personally entered manholes where we had up to 80% blockage caused by large root masses. After the Duke's application, I re-entered one year later, and the roots were completely decayed. I'm so confident in Duke's products and services that I refer them directly to my municipal clients."

– Jim McGregor, PE, Hatch Mott McDonald



PARTNERING IN ASSET MANAGEMENT

Duke's has been called in on countless consent decrees to help reduce overflows quickly and gain back much needed capacity. Our crews act as another resource in your arsenal to meet even the toughest mandates for capacity assurance and I&I abatement.

Duke's treatments are effective on the largest roots in your system, but treating smaller roots before there are issues is the key to asset management. We have clients that started treating over 40 years ago and those segments are still an asset to this day.

CASE IN POINT: ROOTING OUT SSOS

Virginia Beach Department of Public Utilities Management:

400 pumping stations, 1,800 miles of gravity pipe and 190 miles of force mains.

VA Beach needed a proactive Management, Operation and Maintenance (MOM) Program to determine the cause of stoppages and overflows, maintenance history, the work process and system characteristics. Inspections and thorough analysis showed that grease and roots were the No. 1 and 2 listed causes of SSOs. Duke's Razorooter™ pilot program was initiated.

RESULTS:

- Instantaneous ROI via reduced frequency of SSOs after implementation of the MOM program.
- 1st year of formal root control program: the number of SSOs dropped over 30 percent and have continued to drop substantially every year since.
- Taking an O&M approach as opposed to a "Find and Fix" mentality, all things being equal, over 20 years, the cost would be about \$157 million, significantly less than the nearly \$400 million estimated for a traditional once-and-done solution that would likely require a reinvestment 20 years down the road.

"The comprehensive MOM program, which includes a sizable root control effort, is a prime example of a success story that can be shared with other similar communities. It documents capacity assurance results and reductions in SSOs, which was our primary goal, without high cost of implementing traditional I&I reduction efforts. We now have a good, solid foundation, fewer environmental impacts and a process to continually get to the cause — grease and roots — instead of our previous reactionary approach to clean when the stoppages occurred. We have made great strides."

– Aaron K. Nelson, P.E., VP, Brown and Caldwell



Duke's exclusive Razorooter™ is a diquat-based herbicide registered by the U.S. Environmental Protection Agency (EPA) for controlling nuisance tree roots in sanitary sewer line collection systems.



A REPUTATION FOR TRUST

At Duke's, our mission is to provide unparalleled personal service with the knowledge and expertise of our team, offering cost-effective solutions and innovative design.

We are consistent leaders in the fields of water, wastewater, and stormwater consulting, specializing in the inspection, evaluation, mapping, rehabilitation, and design of these infrastructure systems. With a quality team of highly-motivated experts, our strength stems from our commitment to clients, employees, our industry, and the communities we serve.



400 E. Airport Road, Suite E

Elgin, Illinois 60123

800-447-6687 | www.dukes.com

**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD JULY 07, 2025**

10.

Meeting was called to order at 9:08 p.m. by Vice President Ptashnik. Present: Scott Morgan, Laura Toy, Rob Donovic, Carrie Budzinski, Lynda Scheel, and Vice President Ptashnik. Absent: Council President McCullough.

Elected and appointed officials present: Carter Fisher, City Attorney; Lori L. Miller, City Clerk; Mark Taormina, City Planner and Economic Development Director; Dave Lear, Assistant City Engineer.

Councilmember Toy led the meeting with the Pledge of Allegiance.

14. AWARD OF CONTRACT: Department of Public Works, re: parking, athletic, and street light electrical maintenance and general electrical maintenance at all City buildings and facilities for the period June 1, 2025, through May 31, 2028, from budgeted funds.

Don Rohraff, Public Works Director, noted the lowest bid being Great Lakes Power and Lighting, who is the contractor that helps with any electrical needs.

Motion was made by Councilmember Morgan to put the matter on the Consent portion of the next Regular Agenda.

DIRECTION:

APPROVING

CONSENT



LETTER TO THE LIVONIA CITY COUNCIL

14.

DPW
June 16, 2025

MEETING DATE

S070725/R072125

PRESENTED BY

Douglas L. Moore, MSA, Assistant Director of Public Works

AGENDA ITEM

AWARD OF CONTRACT: Department of Public Works, re: parking, athletic, and street light electrical maintenance and general electrical maintenance at all City buildings and facilities for the period June 1, 2025, through May 31, 2028, from budgeted funds.

BACKGROUND DETAILS

A bid request for Electrical Services for the City of Livonia's Parks, Athletic, Streetlight and General Electrical Maintenance was posted on MITN May 1, 2025. Bids were requested for a four-year (2025-2028) period. Three bids were submitted, the lowest being Great Lakes Power and Lighting, 9646 26 Mile Rd, Casco, MI 48064.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

The department is requesting Council to authorize the Mayor and City Clerk to execute an agreement with Great Lakes Power and Lighting, 9646 26 Mile Rd., Casco, MI 48064 for the period of June 1, 2025, through May 31, 2028; (4 years) to provide general electrical services including parking, athletic and streetlights, at the unit pricing submitted via the bid process, estimated not to exceed \$300,000 annually, from budgeted funds. In the event Great Lakes Power and Lighting is unable to fulfill their contract, permit the Department of Public Works the authority to award the remaining contract to the second-lowest bidder, RCI Electric LLC, 4999 McCarthy Drive, Milford, MI 48381

SPECIFIC NAME OF PRODUCT AND NUMBER TO BE PURCHASED (if more than one)

Funds for the General Electrical Services contract are budgeted in various departmental contractual services accounts.

CONTRACT: Amount and/or purchase price and length of contract (with dates if applicable)

\$300,000.00 annually
June 1, 2025 - May 31, 2028 (4 year)

DETAILED WORK BEING PERFORMED

Electrical maintenance of City owned Parking lots, athletic fields street lights and general electrical maintenance.

FISCAL CONSIDERATIONS (Amount requested and Account(s) used. If applicable, Grant Funding information)

\$300,000.00 annually

ACCEPTANCE OF BID (Please detail the following: Why accepted, why not lowest bidder, company name, contact person, full address)

Lowest bidder

REASON TO WAIVE BID PROCESS (Emergency, Professional services, No advantage to City and why, Consortium package, etc): n/a

ATTACHMENTS

1. 2025-28 PARKING ATHLETIC AND GENERAL ELECTRICAL MAINTENANCE BID AS POSTED
2. Bid Tab - Electrical Maintenance 2025-2028

APPROVED BY



Douglas L. Moore, MSA, Assistant Director of Public Works

Date: June 16, 2025



Don Rohraff, Director of Public Works

Date: June 16, 2025



Maureen Miller Brosnan, Mayor

Date: June 20, 2025

CITY OF LIVONIA
DEPARTMENT OF PUBLIC WORKS
PUBLIC SERVICE DIVISION

PARKING, ATHLETIC AND STREET LIGHTING
ELECTRICAL MAINTENANCE
2025 - 2028

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CONTRACT DOCUMENTS

1. Advertisement for Bids..... AB-1

2. Instructions to Bidders IB-1 thru IB-2

3. Proposal Form PF-1 and PF-9

4. General Conditions..... GC-1 thru GC-14

5. Proof of Insurance INS-1 thru INS-6

6. Specifications S-1 thru S-2

7. Contractor’s Declaration CD-1

8. Contractor’s Affidavit CA-1

9. Contract..... C-1 and C-2



CITY OF LIVONIA – REQUEST FOR BID

ELECTRICAL MAINTENANCE Parking, Athletic and Street Lighting 2025 - 2028

The City of Livonia Michigan will receive sealed bids via the MITN WEBSITE ONLY (www.mitn.info) for **GENERAL ELECTRICAL MAINTENANCE: PARKING, ATHLETIC AND STREET LIGHTING AT VARIOUS CITY LOCATIONS**. Sealed bids will be received until **2:00 p.m., on MAY 20, 2025**. No faxed bids will be accepted. No late bids will be accepted. No physical bids will be accepted. All bid responses must be submitted in Adobe Acrobat PDF format via the MITN website.

Bids received via the MITN website by the specified due date and time will be publicly opened at the due date and time via Zoom. Vendors may attend the bid opening virtually by using the following credentials:

By Computer: <https://us02web.zoom.us/j/82294127641>

By Phone: Phone (312) 626-6799 Webinar ID: 822 9412 7641

The City reserves the right to reject in or in part any and all bids received, to waive any irregularities or informalities or both; as it is determined to be in the best interests of the City of Livonia to do so.

The City of Livonia officially distributes bid documents through the Michigan Intergovernmental Trade Network (BidNet). **Bid documents obtained from any other source are not considered official copies.** The City of Livonia cannot guarantee the accuracy of any information not obtained from the MITN website and is not responsible for any errors contained by any information received from alternate sources. Only those firms who obtain the RFB documents from the MITN system are guaranteed access to receive addendum information, if such information is issued. If you obtained this document from a source other than the source indicated, it is recommended that you register on the MITN site, www.mitn.info and obtain an official copy.

QUESTIONS:

Questions regarding the Request for Bid must be submitted **in writing** to the attention of Gus Kandah, Purchasing Manager, via email at: gkandah@livonia.gov. All questions received by MARCH 25, 2025 will be responded to in writing in the form of an addendum which will be posted on the MITN website. No phone calls will be accepted. All inquiries regarding this solicitation shall be submitted to the Purchasing Manager.

INSTRUCTIONS TO BIDDERS

1. All bids submitted must be on the City of Livonia bid proposal forms. If more than one bid is submitted, a separate bid proposal form must be used for each. Forms are attached on the Michigan Intergovernmental Trade Network (MITN) website at www.mitn.info.
2. Municipalities are exempt from Michigan State Sales and Federal Excise taxes. Do not include such taxes in the proposal figure. The City will furnish the successful bidder with tax exemption certificates when requested.
3. All materials are to be F.O.B. delivered freight paid to the work sites.
4. If further information regarding this bid is required, please contact the Purchasing Manager via email at gkandah@livonia.gov.
5. Vendor changes or alterations to bid documents, including specifications, may result in a bid being considered non-responsive. The only authorized vendor changes to a bid document will be in the areas provided for a bidder's response, including the "Exceptions" section of the bid proposal. If a change or alteration to the documents is undetected and the bidder is awarded a contract, the original terms, conditions, and specifications in the Authorized Version of the bid document will be applicable during the term of the contract. The City of Livonia shall accept no changes to the bid document made by the Vendor unless those changes are set out in the "Exceptions" provision of the Authorized Version of the bid document. It is the Vendor's responsibility to acquire knowledge of any changes, modifications or additions to the Authorized Version of the bid document. Any Vendor who submits a bid and later claims it had no knowledge of any changes, modifications or additions made by the City of Livonia to the Authorized Version of the bid document, shall be bound by the bid, including any changes, modifications or additions to the Authorized Version. If a bid is awarded to a Vendor who claims that it had no knowledge of changes, modifications or additions made by the City of Livonia to the Authorized Version of the bid, and that Vendor fails to accept the bid award, the City of Livonia may pursue costs and expenses to re-bid the item from that Vendor. The Authorized Version of the bid document shall be that bid document appearing on the MITN System with any amendments and updates. The City of Livonia officially distributes bid documents through the Michigan Intergovernmental Trade Network (MITN). Copies of bid documents obtained from any other source are not considered official copies. Only those vendors who obtain bid documents from the MITN system are guaranteed access to receive addendum information, if such information is issued. If you obtained this document from a source other than the sources indicated, it is recommended that you register on the MITN site, www.mitn.info, and obtain an official copy.
6. To the fullest extent permitted by law, the successful bidder agrees to defend, pay on behalf of, indemnify, and hold harmless the City of Livonia, its elected and appointed officials, employees and volunteers and others working on behalf of the City of Livonia against any and all claims, demands, suits, or loss, including all costs connected therewith, and for any damages which may be asserted, claimed or recovered against or from the City of Livonia, its elected and appointed officials, employees, volunteers or others working on behalf of the City of Livonia, by reason of personal injury, including bodily injury or death and/ or property damage,

including loss of use thereof, which arises out of or is in any way connected or associated with this contract.

7. To the extent permitted by law, the City of Livonia and the successful bidder waive all rights against each other and any of their subcontractors, sub-subcontractors, agents and employees, and the architect, architect's consultants, separate contractors, if any, and any of their subcontracts, subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other perils to the extent covered by property insurance obtained pursuant to this agreement or other property insurance applicable to the work. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged for this contract.

SPECIAL INSTRUCTIONS:

- All bidders are held to bid prices for 60 days or bid award, whichever comes first, except the successful bidder whose prices shall remain firm for the entire contract period.
- Final bid results will be posted on the MITN website after award. Please register to see results - www.mitn.info.
- All work shall be performed by licensed JOURNEYMAN and/or level worker to perform the assigned task in accordance with applicable Michigan Licensing Laws.
- All parts, materials and labor will have a one (1) year guaranty from the date of service.

CITY OF LIVONIA PROPOSAL FORM
PARKING, ATHLETIC, STREET LIGHT, AND GENERAL ELECTRICAL MAINTENANCE

Honorable Members of the Council

33000 Civic Center Drive

Livonia, Michigan 48154

Dear Council Members:

The undersigned, by the submission of this proposal, represents that they are familiar with and has determined for themselves the nature and extent of the proposal work and the conditions under which it must be performed and completed, and agrees that they will contract with the City of Livonia to furnish at and for the following monies all materials, labor, equipment, permits, insurance, supervision and all other things necessary or incidental to complete the entire work in accordance with the appended specifications, general conditions, and related contract documents. By the submission of this bid, the undersigned represents that they are familiar with and understands all of the above referenced contract documents.

Note: All Fuel, Service, Tool, and Other Charges will be incorporated into the bid

These proposals will be separated by the following general locations:

Location # 1 - Ball Diamonds

Location # 2 - Parking Lots and Parks

Location # 3 – Miscellaneous City Facilities

CITY OF LIVONIA PROPOSAL FORM
PARKING, ATHLETIC, STREET LIGHT, AND GENERAL ELECTRICAL MAINTENANCE

PROPOSAL:

Location # 1 - Ball Diamonds –

a. Ford Field – Farmington Rd and Lyndon

b. Bicentennial Field – Seven Mile between Farmington Rd and Newburgh Rd

Item	Estimated Qty/Year		Description	Unit Price	Total
#1	10	Each	Call Out and Determination of cause of outage (each time*)	\$ _____	\$ - _____
#2	10	Each	Replace Lamp	\$ _____	\$ - _____
#3	10	Each	Replace Ballast	\$ _____	\$ _____
#4	10	Each	Replace Starter	\$ _____	\$ - _____
#5	10	Each	Replace Fuse (Per pole/per electric box**)	\$ _____	\$ - _____
#6	10	Each	Replace Lens	\$ _____	\$ _____
#7	10	Each	Replace Photo Cell	\$ _____	\$ - _____
#8	10	Each	Replace Breakers	\$ _____	\$ - _____
#9	50	Each	Tighten & Lubricate anchor bolts, Horizontal Refractors, Glass washing, lamp replacement (Per pole double or single lamp)	\$ _____	\$ - _____
#10	5	Each	Remove & Replace Fixture	\$ _____	\$ - _____
#11	5	Each	Replace bulbs on Athletic Field Poles (aprox. 80' in height)	\$ _____	\$ - _____
LOCATION #1 TOTAL BID PROPOSAL:				Items #1 - #11	\$ - _____

* See **SPECIFICATIONS**, Page 1., "WORK TO BE DONE UNDER THIS CONTACT: Item 1.

** See **SPECIFICATIONS**, Page 1., "WORK TO BE DONE UNDER THIS CONTACT: Item 5

CITY OF LIVONIA PROPOSAL FORM

PARKING, ATHLETIC, STREET LIGHT, AND GENERAL ELECTRICAL MAINTENANCE

Location # 2- Parking Lots –

- | | |
|---|---|
| <p>c. City Hall Campus – 32000 Civic Center Dr. (Five Mile at Farmington)</p> <p>d. Livonia Community Recreation Center – 15100 Hubbard (between Merriman and Farmington)</p> <p>e. Livonia Fire Department (LFD) Station # 3 – 35000 Seven Mile (east of Farmington)</p> <p>f. LFD Station # 4 – 12300 Middlebelt (north of Plymouth Rd)</p> <p>g. LFD Station # 5 – 18910 Middlebelt (south of Seven Mile)</p> <p>h. LFD Station # 6 – 37876 Plymouth Rd (west of Newburgh)</p> <p>i. Bicentennial Park and Fox Creek Golf Course – 36000 Seven Mile (between Farmington Rd & Newburgh Rd)</p> <p>j. Whispering Willows Golf Course – 20500 Newburgh (south of Eight Mile)</p> <p>k. Idyl Wild Golf Course – 35780 Five Mile Rd (east of Newburgh)</p> <p>l. Housing Commission – 10800 Farmington (south of Plymouth Rd)</p> | <p>m. DPW Campus – 12973 Farmington Rd (south of Schoolcraft west of Farmington)</p> <p>n. Noble Library – 32901 Plymouth Rd (east of Farmington Rd.)</p> <p>o. Sheldon Pool – 32929 Plymouth Rd (east of Farmington Rd behind Library)</p> <p>p. Botsford Pool – 19444 Lathers (north of Seven Mile)</p> <p>q. Clement Circle Pool – 9999 Harrison (north of West Chicago)</p> <p>r. Livonia Police Firing Range – 32400 Glendale (east of Farmington Rd)</p> <p>s. Ford Field/Eddie Edgar Ice Arena – 14203 Farmington Rd (north of Schoolcraft)</p> <p>t. Devon-Aire Ice Arena – 9510 Sunset (east of Merriman)</p> <p>u. Rotary Park – 32300 Six Mile (east of Farmington Rd)</p> <p>v. Wilson Barn – 29350 W. Chicago (east of Middlebelt)</p> <p>w. Greenmead - 20501 Newburgh (Newburgh and Eight Mile)</p> |
|---|---|

Item	Estimated Qty/Year		Description	Unit Price	Total
#1	30	Each	Call Out and Determination of cause of outage (each time*)	\$ _____	\$ _____
#2	120	Each	Replace Lamp	\$ _____	\$ _____
#3	30	Each	Replace Ballast	\$ _____	\$ _____
#4	15	Each	Replace Starter	\$ _____	\$ _____
#5	40	Each	Replace Fuse (Per pole/per electric box**)	\$ _____	\$ _____
#6	25	Each	Replace Lens	\$ _____	\$ _____
#7	15	Each	Replace Photo Cell	\$ _____	\$ _____
#8	15	Each	Replace Breakers	\$ _____	\$ _____
#9	150	Each	Tighten & lubricate anchor bolts, horizontal refractors, glass washing, lamp replacement (per pole double or single lamp)	_____	_____
#10	5	Each	Remove & Replace Fixture	\$ _____	\$ _____
LOCATION #2 TOTAL BID PROPOSAL:				Items #1 - #10	\$ _____

* See SPECIFICATIONS, Page 1., "WORK TO BE DONE UNDER THIS CONTACT: Item 1.

** See SPECIFICATIONS, Page 1., "WORK TO BE DONE UNDER THIS CONTACT: Item 5.

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3. Location # 3 - Miscellaneous City Facilities (Isolated interior Park locations, Isolated building locations, etc.)

Item	Estimated Qty/Year		Description	Unit Price	Total
#1	10	Each	Call Out and Determination of cause of outage (each time*)	\$ _____	\$ -
#2	10	Each	Replace Lamp	\$ _____	\$ -
#3	10	Each	Replace Ballast	\$ _____	\$ -
#4	10	Each	Replace Starter	\$ _____	\$ -
#5	10	Each	Replace Fuse (Per pole/per electric box**)	\$ _____	\$ -
#6	10	Each	Replace Lens	\$ _____	\$ -
#7	10	Each	Replace Photo Cell	\$ _____	\$ -
#8	10	Each	Replace Breakers	\$ _____	\$ -
#9	50	Each	Tighten & Lubricate anchor bolts, Horizontal Refractors, Glass washing, lamp replacement (Per pole double or single lamp)	\$ _____	\$ -
#10	5	Each	Remove & Replace Fixture	\$ _____	\$ -
#11	5	Each	Replace bulbs on Athletic Field Poles (aprox. 80' in height)	\$ _____	\$ -
LOCATION #3 TOTAL BID PROPOSAL:				Items #1 - #11	\$ -

* See SPECIFICATIONS, Page 1., "WORK TO BE DONE UNDER THIS CONTACT: Item 1.

** See SPECIFICATIONS, Page 1., "WORK TO BE DONE UNDER THIS CONTACT: Item 5.

SUMMARY BID LIST:

Location #1 Total Bid: _____

Location #2 Total Bid: _____

Location #3 Total Bid: _____

GRAND TOTAL: _____

Yr #1 2025-2026 _____

Yr #2 2026-2027 _____

Yr #3 2027-2028 _____

Optional Yr. # 4 2028-2029 _____

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The following items (#12 through #18) will be used in determining unit costs for activities that will be considered General Electrical Maintenance at City facilities assigned to City Buildings and/or other locations.

2. General - Electrical Maintenance

Item	Description	PRICE PER HOUR		
		Regular	Overtime	Holiday
#12	Hourly labor rate per crew (crew includes 1 journeyman electrician, 1 instrument technician)	\$	\$	\$
#13	Hourly labor rate Master Electrician	\$	\$	\$
#14	Hourly labor rate Journeyman Electrician	\$	\$	\$
#15	Hourly labor rate Apprentice Electrician	\$	\$	\$
#16	Hourly rate for Service Truck	\$	\$	\$
#17	Hourly rate for Service Truck with crane	\$	\$	\$
#18	Hourly rate for Lift Truck	\$	\$	\$
ADDITIONAL ITEMS:		\$	\$	\$
Non-scheduled Emergency Response Time		HOURS		

Non-Contract Replacement Parts:

Discount (markup or markdown) on parts not listed above + _____ % or - _____ %

Parts List: _____ Dated: _____ will be used. A published company pricing sheet will be accepted.

OR Invoiced Price: () Yes, Invoices will be supplied.

Parts quoted are manufactured by: _____

IMPORTANT: Employees performing various specific work must be licensed to perform that work in conformance with applicable laws governing such work.

PROPRIETARY PRICE LISTS:

If your company deems that your price lists are proprietary information, your company can provide a price list that is marked with the words "PROPRIETARY INFORMATION" which will then exclude that document for Freedom of Information requests. If a price list is provided which is not identified as "PROPREITARY INFORMATION", it cannot be marked as such by City staff and will be subject to Freedom of Information requests.

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PRICES:

Prices shall remain firm for 60 days or bid award, whichever comes first; except for the successful bidder whose prices shall remain firm for the entire contract period. The contract may be renewed for one (1) additional year based upon mutual consent of both parties within 90 days of contract termination based upon the same prices, terms, and conditions. The renewal is subject to a favorable market survey and City Council approval. A request by City staff to determine a successful bidder's interest in renewing a contract in no way obligates the City. The option cannot be exercised without Livonia City Council approval and a blanket purchase order issued.

The only exception to firm prices shall be in the case of a part that is needed which is not listed in Items #1-10. The parts prices shall be in accordance with the manufacturer's current published price list and firm discount or markup quoted. Or, if a company's computer generated price list is used, the price list submitted with the bid document will be firm for the entire year of the contract. In each contract year, a company's computer generated price list may be updated on or after the anniversary date (one time per contract year). Parts lists will be required to be on file in the offices of the City of Livonia. If a parts list is not available, the manufacturer's invoiced price with a markup or markdown will be used. Verification of the invoiced price may be required by the City of Livonia at the City of Livonia's discretion

NOTE: The undersigned has checked carefully the bid figures and understands that he/she shall be responsible for any error or omission in this bid offer and is in receipt of all addendum as issued.

COMPANY: _____

ADDRESS: _____ CITY: _____ STATE: _____ ZIP: _____

TELEPHONE: (____) _____ EMAIL: _____

REPRESENTATIVE'S NAME: _____

(PRINT)

SIGNATURE OF AUTHORIZED COMPANY REPRESENTATIVE:

TERMS: _____ WARRANTY: Parts _____ Labor _____

RESPONSE TIME: _____

EXCEPTIONS: Any exceptions, substitutions, deviations, etc., from the City specifications and this proposal must be stated below. The reason(s) for the exceptions, substitutions, or deviations are an integral part of this bid proposal:

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UNIT PRICES: Unit prices prevail. The City of Livonia Finance Department will correct extension errors

IMPORTANT: For award purposes, all quantities listed will be multiplied by the unit price quoted for each item. The lowest bid will be determined by summing these amounts.

CONTACT INFORMATION: Hours of operation: _____

24 Hr. Contact Phone No. _____

ESTIMATED QUANTITIES:

The quantities as shown on the proposal are based on annual projections and will be used for award purposes only. The actual work may vary from the proposal. The contractor will be paid only for the work he/she does, which may be more or less than the quantities shown on the proposal.

Note: All (but emergency) work will be scheduled by the City on regular work time.

DEFINITION OF HOURLY TIME CHARGES: Regular time charges are to defined as any time between the hours of 8:00 AM and 5:00 PM, Monday through Friday with the exception of the following Holiday: New Years, Memorial Day, Independence Day, Labor Day, Thanksgiving, Christmas Eve, and Christmas Day. Overtime will be defined as any other time not specified above.

INFORMATION: For additional general information or questions about the specifications, please contact Steve Mackie, Supervisor of Building Maintenance at (734) 466-2643 between the hours of 8:00 am to 4:00 pm, Monday through Friday.

DOWNPAYMENTS AND PREPAYMENTS: Any proposal submitted which requires a down payment or prepayment for services prior to performance and acceptance, as being in conformance with specifications will not be considered for award.

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REFERENCES:

The City of Livonia requires that your company list at least three (3) clients who have recently had similar work performed by your company. Please, print.

COMPANY: _____

ADDRESS: _____ CITY: _____ ZIP: _____

TELEPHONE: _____ CONTACT: _____

COMPANY: _____

ADDRESS: _____ CITY: _____ ZIP: _____

TELEPHONE: _____ CONTACT: _____

COMPANY: _____

ADDRESS: _____ CITY: _____ ZIP: _____

TELEPHONE: _____ CONTACT: _____

AWARD: The evaluation and award of this bid shall be a combination of factors, including but not limited to cost, professional competence, references, and the correlation of the proposal submitted to the needs of the City of Livonia. The City of Livonia reserves the right to award this bid to the lowest total responsible bidder for both years who meets specifications using those items that have estimated quantities; to reject low bids which have major deviations from specifications; to accept a higher bid which has only minor deviations. The City reserves the right to split the award among more than one bidder.

IMPORTANT: The proposal submitted must contain a unit price for each pay item listed. Also, the proposal may be rejected if the bidder adds any provision. Vendor further declares that he/she has familiarized him/herself with the locations of the existing street, parking lot, and athletic field lighting systems in the City of Livonia, and the conditions under which it must be serviced. Bidder acknowledges that they have carefully examined the specifications that they understands and accepts as sufficient for the purpose of maintenance of the Livonia Street, Parking Lot, and Athletic Field Lighting Systems.

SUBCONTRACTORS: The undersigned agrees to submit a list of proposed subcontractors, if applicable, for approval by the designated City representative within 72 hours after notification

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of being the low qualified bidder. It will be understood that this may occur prior to bid award, but the bidder's status will not be final until approved by the Livonia City Council.

INVOICES: The contractor shall submit to the designated City representative detailed invoices that include minimally; the blanket order number, service preformed, and location(s) of the repair/maintenance work. The City may require separate invoices by location of work. The Designated City representative reserves the right to review a prototype of the invoice for completeness prior to award. Invoices that are incomplete will not be paid until all requested/required information is submitted. Payments will be made, 30 days from the submission of invoices, based on the value of the work completed to date that is within the parameters of the specifications.

INSURANCE: Insurance certificates in the amounts shown on attached Sample Certificate of insurance must be provided.

WARRANTY: All parts and labor provided by contractor shall be warranted for a period of one year. Bidder shall state warranty for all work and parts with bid response.

SECTIONTOPIC

1. Contract Documents
2. Definitions
3. Intent of the Contract Documents
4. Contract Drawings and Specifications
5. Shop Drawings
6. Soil Conditions
7. "Or Equal" Clause
8. Patents and Infringements
9. Superintendence
10. Workers
11. Subcontracting
12. Director's Status
13. Inspector's Status
14. Inspection
15. Protection of Work
16. Accident Protection
17. Working Space
18. Use of the Site
19. Order of Completion – Use of Completed Portion
20. Permits, Surveys and Compliance With Laws
21. Laying Out Work
22. Survey Monuments
23. Sanitary Regulations
24. Report of Errors and Discrepancies
25. Estimated Quantities
26. Contractor's and Subcontractor's Insurance
27. Proof of Carriage of Insurance
28. Performance Bond **Not Applicable**
29. Labor and Materials Bond **Not Applicable**
30. Maintenance and Guarantee Bond **Not Applicable**
31. Forfeiture of Contract
32. Definition of Notice
33. Additional or Omitted Work – Payment
34. Deduction for Uncorrected Work
35. Time Limit of Contract
36. Extension of Time
37. Estimates and Payments
38. Fair Employment Practices Act

1. Contract Documents

The contract documents shall consist of the Notice to Bidder, Proposal, General Conditions, Specifications, Bonds, Plans, Drawings, Contract, and any additional documents which may be made a part of the contract.

2. Definitions

Certain terms, when used in the contract documents, shall be respectively defined as follows:

"City or Owner"	The City of Livonia.
"Contractor"	The person, firm or corporation to whom the within contract is awarded by the Owner and who is subject to the terms hereof.
"Subcontractor"	A person, firm or corporation, other than a Contractor, supplying labor and/or materials which contribute in any manner to performance of the within contract.
"Surety"	Any person, firm or corporation that has executed, as Surety, the Contractor's bonds securing the performance of the within contract.
"Director"	The Director of Public Works of the City of Livonia or any of his designated representatives.

3. Intent of the Contract Documents

The respective contract documents are complementary, so that requirements of any particular document shall be applicable to all. The contract price, as such term is used in the contract documents, shall include the cost of all superintendence, labor and materials, and all other expense necessary for the proper execution of the work.

The specifications, schedules, plans and drawings herein referred to shall be taken together to explain each other and to make the whole consistent. Work shown on a plan and not mentioned in the specifications, or vice versa, shall be performed as if shown by both; and, in case of conflict, the Director will determine which will govern. In case of ambiguity in the plans or specifications, the Director will decide as to the correct interpretation thereof. Where errors or omissions are encountered in the contract documents, the applicable sections of the current edition of the Wayne County's Road Commissioners General Specifications for Roads, Bridges, and Miscellaneous Construction shall prevail.

When not otherwise specifically defined in the contract documents, words therein which describe materials or work having a well-known technical or trade meaning, recognized by architects, engineers and the trade, shall be construed in accordance with such meaning.

4. Contract Drawings and Specifications

The contractor shall be held to have compared the premises with the contract drawings and specifications, prior to submitting a proposal, and to have fully informed himself as to the condition of the premises, existing structures, and any other condition affecting the carrying out of the work. No additional consideration or compensation will be allowed by reasons of obvious errors or omissions in the contract drawings or specifications.

Unless otherwise provided in the contract documents, the City will furnish the contractor, free of charge, copies of all contract drawings and specifications reasonably necessary to carry out the work.

All work shall strictly conform with the contract drawings and specifications, and the contractor shall not proceed without reference thereto.

Approved or conformed copies of the contract drawings and specifications shall be maintained at the work site by the contractor and be made available to the City at all times.

5. Shop Drawings

The contractor shall submit to the Director all shop or setting drawings and schedules required for the work, make any corrections therein required by the Director, and resubmit same without delay.

Approved or conformed copies of all shop or setting drawings shall be maintained at the work site by the contractor and be made available to the City at all times.

6. Soil Conditions

The contractor shall be held to have made his own determination of soil conditions on the premises, prior to submitting a proposal, and shall complete the work in whatever soil materials and under whatever conditions he may encounter or create, without additional cost to the owner. This shall apply whether or not borings are shown on the drawings.

7. "Or Equal" Clause

Whenever an article, material, or item of equipment is specified in any of the contract documents by describing a proprietary product, or by using the name of a manufacturer or vendor, the term "or equal," if not inserted, shall be implied.

The specified article, material, or equipment shall be understood as indicating the type, function, minimum standard of design, efficiency and quality desired and shall not be construed in such a manner as to exclude manufacturers' products of comparable quality, design and efficiency. The contractor shall comply with requirements in the contract documents relative to the City's approval of materials and equipment before they are incorporated in the work.

8. Patents and Infringements

The contractor agrees to indemnify and save the City, its servants and agents, harmless against any and all claims for royalties or infringements of patent rights in respect to tools,

appliances, equipment, processes, or systems of construction and materials made, furnished or used under this contract, and to defend at his own expense any and all suits at law or in equity which may be brought against the City, its servants or agents, for such claims; provided, however, that the City, its servants or agents, gives the contractor immediate notice in writing of the institution of such suit and authorizes him to defend the same, furnishing him with such reasonable assistance and available information as will enable him to so defend. The provisions of this paragraph shall be binding upon the parties hereto, notwithstanding anything to the contrary implied or expressed elsewhere in any of the contract documents.

9. Superintendence

The contractor shall give his personal superintendence to the work or have at the site of the work at all times a competent foreman, superintendent, or other representative who is satisfactory to the City and who has authority to act for the contractor.

10. Workers

The contractor shall employ only competent, efficient workers who are skilled in the work assigned to them and shall at all times enforce strict discipline and good order among his employees. Whenever the City shall notify the contractor, in writing, that in its opinion any worker so employed is careless, incompetent, disorderly, or otherwise unsatisfactory, such worker shall be relieved from the job and shall not again be employed thereon except with the written consent of the City.

11. Subcontracting

The contractor shall not subcontract any work to be performed or any materials to be furnished in the performance of this contract without the written consent of the City. If the contractor sublets any part of this contract, he shall be as fully responsible to the City for the acts and omissions of his subcontractors, and of the persons they directly or indirectly employed, as he is for the acts and omissions of his own employees.

12. Director's Status

The Director shall have general supervision and direction of the work, and authority to stop such work whenever necessary to insure proper performance of this contract. He shall also have authority to reject all work and materials which do not conform with the contract, to direct the application of forces to any portion of the work, as in his judgment is required, and to decide questions which arise in the course of such work.

13. Inspector's Status

The City may appoint on-the-job inspectors who shall be under the direction of the Director. Such inspectors will inform the Director as to the work progress, the manner in which it is being done, and the quality of materials being used. They will call the

contractor's attention to any observed failure to follow the plans and specifications. They shall have the authority to reject materials or workmanship which are defective and to suspend the work until any questions concerning compliance with the contract can be referred to and decided by the Director; but they shall have no authority to direct the contractor's work or workers, to supervise the contractor's operations or to change the contract plans or specifications.

In no instance shall any action or omission on the part of an inspector release the contractor from his responsibility to complete the work in accordance with the plans and specifications.

14. Inspection

The City and its representatives shall at all times have access to the work wherever it is in preparation or progress, and the contractor shall provide proper facilities for such access and for inspection.

The City shall have the right to reject materials and workmanship which are defective or to require their correction. Rejected workmanship shall be satisfactorily corrected, and rejected materials shall be promptly removed from the premises without charge to the City. If the contractor does not correct such condemned work and remove rejected materials within a reasonable time, fixed by written notice, the City may remove them and charge the expense to the contractor.

Should it be considered necessary or advisable by the City at any time before final acceptance of the entire work to make an examination of work already completed, by removing or tearing out same, the contractor shall, on request, promptly furnish any necessary facilities, labor and materials. If such work is found to be defective in any material respect, due to the fault of the contractor, or his subcontractors, he shall defray all the expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the contract, the actual cost of labor and material necessarily involved in the examination and replacement, plus 15%, shall be allowed the contractor.

15. Protection of Work

The contractor shall continuously maintain adequate protection of all his work from damage and shall protect the City's and adjacent property from injury arising in connection with this contract.

The work under this contract shall be at the risk of the contractor in every respect until finished and accepted by the City.

The contractor shall furnish and maintain necessary passageways, guard fences, lights and such other facilities and means of protection as may be needed.

16. Accident Prevention

Precaution shall be observed at all times for the protection of persons including employees and property. The safety provisions of applicable laws, as well as building and construction codes, shall be observed. Machinery and equipment shall be guarded, and all hazards guarded or eliminated, in accordance with the safety provisions of the Manual

of Accident Prevention in Construction, published by the Associated General Contractors of America, to the extent that such provisions are not in contravention of applicable laws.

Substantial barricades shall be erected as deemed necessary to prevent accidents to vehicular or pedestrian traffic, and red flags by day and red lights by night shall be diligently posted by the contractor at all points of possible danger. In case detours or other traffic instructions are necessary, suitable warning or direction devices shall be installed and maintained by the contractor.

Should the contractor fail to comply with any provisions of this contract, affecting the public welfare or safety, the City may, with or without notice, cause the necessary precaution to be taken and will deduct the cost of such work from any money due or to become due the contractor under this contract; but the performance of such work by the City, or at its direction, shall not release the contractor from his general or particular liability for the safety of persons or property.

17. Working Space

The contractor shall confine his equipment, apparatus, materials storage and operations to limits indicated by applicable laws, permits or directions of the City and shall not unnecessarily encumber the premises with his materials.

Should the contractor require space on privately owned property, he shall obtain such space at his own expense by agreement with the owner thereof.

18. Use of Site

In his operations, the contractor shall interfere as little as possible with traffic and shall in no case unduly obstruct traveled ways.

The contractor shall at no time interfere with surface or underground drainage. Free access shall be provided at all times to hydrants and water and gas valves.

The contractor shall enforce the City's instructions regarding signs, advertisements, fires and smoke.

19. Order of Completion – Use of Completion Portion

The contractor shall cooperate with the City, when reasonably possible, to complete any portion or portions of the work in such order of time as will be beneficial to the City without prejudice to the contractor's interests.

Use of a completion portion of the work by the City shall not be deemed as acceptance of the work so used or any part thereof.

20. Permits, Surveys and Compliance With Laws

The contractor shall secure and pay for all permits, fees and licenses (including such fees that may be assigned to the City of Livonia as permit holder) necessary for the performance of the work unless otherwise specifically provided in the contract documents.

The City shall furnish all surveys unless otherwise provided in like manner.

The contractor shall give all notices, pay all fees, and comply with all applicable laws, as well as rules and regulations bearing on the conduct of the work.

21. Laying Out Work

Principal reference lines or points and bench marks shall be given by the Director when he deems necessary; or he shall be given twenty-four (24) hours advance notice if the contractor requires such information.

The Director will set suitable stakes and marks showing the locations and elevations of the various parts of the work and will furnish the contractor with cut sheets referred to the reference points. No work shall be undertaken until such stakes and marks shall have been set. The contractor shall assure that the work at all times proceeds in accordance with the stakes and marks and shall provide all labor and materials to set required batter boards and locate the work accurately with respect to the reference points.

The contractor shall carefully preserve reference points and stakes; and, in case of willful or careless destruction thereof, he will be charged with the resulting expense and shall be responsible for any errors that may be caused by their loss or disturbance.

22. Survey Monuments

The contractor shall protect and preserve all land survey monuments or property corners along the line of his work. Where monuments or irons are unavoidably disturbed or removed due to operations under this contract, the contractor, at his own expense, shall employ the services of a registered land surveyor to establish, reset or replace such monuments or irons.

23. Sanitary Regulations

Necessary sanitary conveniences for the use of laborers on the work, properly secluded from public observation, shall be constructed and maintained in sanitary condition by the contractor; and their use shall be strictly regulated.

24. Report of Errors and Discrepancies

If, in the course of the work, the contractor finds any discrepancies between the plans and physical conditions encountered, or any errors or omissions in the plans or layout, it shall be his duty to immediately inform the Director in writing. Any work done after such discovery, until authorized by the Director, will be at the contractor's risk.

25. Estimated Quantities

The quantities of the various classes of work to be done and materials to be furnished under this contract, which have been estimated as stated elsewhere herein, are approximate and only for the purpose of comparing on a uniform basis the bids offered for the work under this contract; and neither the City nor its agents are to be held responsible should any of the estimated quantities be found incorrect during the performance of the work; and the contractor shall make no claim for anticipated profit, nor for the loss of profit, because of a difference between the quantities of the various classes of work actually done or materials actually delivered, and the estimated quantities as herein stated.

26. Contractor's and Subcontractor's Insurance

The contractor shall not commence work under this contract until he has obtained the insurance required under this paragraph, nor shall the contractor permit any subcontractor to commence work on his subcontract until he has obtained the insurance herein required.

- a. Worker's Compensation Insurance. The contractor shall procure and maintain during the life of this contract, Worker's Compensation Insurance for all of his employees who engage in the work to be performed; and, in any case any such work is sublet, the contractor shall require the subcontractor to provide similar insurance for all of the latter's employees who engage in the work.
- b. Contractor's Public Liability and Property Damage Insurance. The contractor shall procure and maintain during the life of this contract, Contractor's Public Liability and Property Damage Insurance in an amount not less than \$1,000,000 for injuries, including accidental death, to each person; and, subject to the same limit for each person, in an amount not less than \$1,000,000 on account for each accident; and in an amount not less than \$1,000,000 on account for each accident for damage to property.
- c. Owner's and Contractor's Protective Public Liability and Property Damage Insurance. The contractor shall procure and maintain during the life of this contract, Owner's and Contractor's Protective Public Liability and Property Damage Insurance, in the name of the City, in an amount not less than \$1,000,000 for injuries, including accidental death, to each person; and, subject to the same limits for each person, in an amount not less than \$1,000,000 for damage to property. Such insurance shall include motor vehicle exposure and specific coverage, by endorsement, which shall be described in the following manner:

"It is understood and agreed that such insurance as if afforded shall include specific coverage for the so-called Explosion, Collapse and Underground Hazards, which covers damage to property arising directly or indirectly from explosion, damage or structural injury to buildings or adjacent structures arising from operations under this contract, including excavation or tunneling and damage sustained by wires, conduits, mains, sewers and the like, occasioned by the contractor's subsurface operations."
- d. Subcontractor's Public Liability and Property Damage Insurance. The contractor shall require each of his subcontractors to procure and maintain during the life of their subcontract, Subcontractor's Public Liability and Property Damage Insurance in an amount not less than \$1,000,000 for injuries, including accidental death, to each person; and, subject to the same limit for each person, in an amount not less than \$1,000,000 on account for each accident; and in an amount not less than \$1,000,000 on account for each accident for damage to property.
- e. Contractor's Motor Vehicle Bodily Injury and Property Damage Insurance.
 - (1) The contractor shall procure and maintain during the life of this contract, Motor Vehicle Bodily Injury Insurance (Comprehensive Form) in an amount not less than \$1,000,000 for injuries, including accidental death, to each person; and,

subject to the same limit for each person, in an amount not less than \$1,000,000 on account for each accident; and in an amount not less than \$1,000,000 on account for each accident for damage to property.

- (2) The contractor shall procure and maintain during the life of this contract, Hired and Non-Ownership Motor Vehicle Bodily Injury and Property Damage Insurance in an amount not less than \$1,000,000 for injuries, including accidental death, to each person; and, subject to the same limit for each person, in an amount not less than \$1,000,000 for each accident; and in an amount not less than \$1,000,000 on account for each accident for damage to property.

27. Proof of Carriage of Insurance

The contractor shall provide the City, at the time this contract is returned by him for execution, the certificates listed below. A guarantee that thirty (30) days' notice will be given to the City prior to cancellation of, or change in, any insurance coverage shall be endorsed on each certificate:

- a. Four (4) copies of Certificate of Coverage of Contractor's Worker's Compensation Insurance.
- b. Four (4) copies of Certificate of Coverage of Contractor's Public Liability and Property Damage Insurance.
- c. Four (4) copies of Certificate of Coverage of Contractor's Motor Vehicle Bodily Injury and Property Damage Insurance covering owned, hired, and non-owned vehicles.
- d. Four (4) copies of Certificate of Coverage of Contractor's Protective Public Liability and Property Damage Insurance

Items 28, 29 from the Table of Contents have been deleted. They are not applicable to this solicitation.

30. Section Deleted

31. Forfeiture of Contract

If the work to be done under the contract shall be abandoned by the contractor, or, if at any time in the judgment of the City, the contractor shall fail to perform the work at a reasonable rate of progress, or to comply with all or any of the terms and requirements herein set forth, then the City shall have the right to take possession of the work, including contractor's plant, supplies, and materials, at any time after having notified the contractor in writing to discontinue the work under this contract for said cause or causes, and such action shall not affect the right of the City to recover damages resulting from such abandonment or failure to perform. Upon receiving such notice, the contractor shall, upon demand, immediately give the City safe and peaceable possession of the work, including the plant, and shall then cease to have control over any portion thereof or the workers employed thereon.

The City may then proceed to complete the work herein specified, by contract or otherwise, and the entire cost incurred shall be charged to the contractor and deducted from any sum or sums due or to become due under the contract; the excess cost, if any, shall be paid to the City by the contractor or his sureties.

32. Definition of Notice

Where the contract documents provide for the giving of any notice, it shall be deemed to have been given:

- a. As to the City, when written notice shall have been delivered to the Director or the City Clerk, or shall have been placed in the U. S. mail, addressed to the City Clerk at the place where the bids or proposals for the contract were opened;
- b. As to the contractor, when written notice shall have been delivered to his chief representative then present at the site of the work, or shall have been placed in the U. S. mail, addressed to the contractor at his permanent place of business, as stated in the papers prepared by him to accompany his proposal; and
- c. As to the surety on a Performance Bond or Labor and Materials Bond, when a written notice shall have been placed in the U. S. mail, addressed to the surety at his home office or to the agents who executed such Performance Bond or Labor and Materials Bond on the surety's behalf.

d. Additional or Omitted Work – Payment

The City may authorize changes in, additions to, or deductions from the work to be performed or the materials to be furnished pursuant to the provisions of this contract.

Adjustments, if any, in the amounts to be paid to the contractor by reason of any such change, addition or deduction, shall be determined by one or more of the following methods:

- a. By unit prices contained in the contractor's original bid and incorporated in the contract.
- b. By a supplemental schedule of prices contained in the contractor's original bid and incorporated in the contract.
- c. By an acceptable lump sum proposal from the contractor.

34. Deduction for Uncorrected Work

If the City deems it expedient to accept work which has been damaged or not done in accordance with the contract, an equitable adjustment will be made so as to deduct from the contract price the cost of repairing or properly performing such work.

35. Time Limit of Contract

The parties hereto distinctly understand and agree that the time specified for completion of the work is the essence of this contract, and that the contractor shall not be entitled to claim performance of this agreement unless the work is satisfactorily completed, in every respect, within the time herein specified.

36. Extension of Time

An extension of time may be granted by the City in the event of the work being delayed, beyond the prescribed time for completion, by carriers, the elements, general strikes, accidents or other causes not under the contractor's reasonable control. Such an extension of time shall be deemed to be in full compensation for any loss or injury sustained by the contractor by reasons of delays caused as aforesaid, and the contract shall not thereby be invalidated in any respect.

37. Estimates and Payments

The City shall pay to the contractor amounts bid in the proposal, or as modified by subsequent agreement, less deduction for any unsatisfactory or incomplete work, based upon measurements by the Director or as otherwise herein stipulated, and such measurements shall be final and conclusive.

The contractor shall submit to the City an application for each payment and shall submit a Contractor's Declaration stating that he has not performed any work, furnished any material, sustained any loss, damage or delay, for any reasons, including soil conditions encountered or created, or otherwise done anything for which he will ask, demand, sue for, or claim compensation from the City and, if required, shall submit receipts or other vouchers showing his payments for materials and labor, including payments to subcontractors.

Payments, based on progress estimates, will be made bi-weekly for ninety-five percent (5%) of the work completed, less any deductions or reservations which may be made in accordance with the terms of this contract, provided that the work is progressing

satisfactorily, all orders of the Director have been complied with, and the time of completion shall not have expired. No allowance will be made for materials furnished which have not been incorporated in the completed work, unless otherwise stated in the contract documents.

The City may withhold payment of any progress estimate, or portion thereof, until the contractor shall have furnished satisfactory evidence that he has paid all claims of every nature.

No payment shall be considered as acceptance of work completed, or any portion thereof, prior to completion of all work required by this contract and payment of the final estimate.

Within thirty (30) days after completion of all work required by this contract to the satisfaction of the City and the Director, in accordance with all and singular terms and stipulations herein contained, the City shall make final payment based upon a final estimate made by the Director. Before such payment is made, the contractor shall, as directed by the City, execute a Contractor's Affidavit that he has paid all claims of every nature, or secured a release from the surety or sureties approving payment. The final payment shall be considered as full approval and acceptance of the completed work herein specified.

Acceptance by the contractor of the final payment aforesaid shall operate as, and shall be, a release of the City and its agents, from all claims by and liability to the contractor for anything done, furnished for, or relating to the work, as well as any act or neglect of the City or of any person relating to or affecting the work.

38. Fair Employment Practices Act

- a. The contractor agrees that neither he nor his subcontractors will discriminate against any employee or applicant for employment, to be employed in the performance of this contract, with respect to his hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of his race, color, religion, national origin or ancestry.
- b. The contractor agrees that neither he nor his subcontractors will discriminate against any employee or applicant for employment to be employed in the performance of this contract, with respect to his hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of his age or sex, except where based on a bona fide occupational qualification.
- c. Breach of the covenants contained in either of the foregoing paragraphs may be regarded as material breach of this contract and may result in its cancellation, termination or suspension in whole or in part and in the contractor being declared ineligible to contract in the future with the City of Livonia.

SPECIFICATIONS:

PARKING, ATHLETIC, STREET LIGHTING, AND GENERAL MAINTENANCE - CITY OF LIVONIA

The contract will be between the City of Livonia, hereinafter called Livonia, and the successful bidder, hereinafter called the contractor, to perform Parking, Athletic and Street Light Maintenance during the period of two years from date of award with an option to renew the contract for one additional year based upon mutual consent of both parties within 90 days of contract termination.

WORK TO BE DONE UNDER THIS CONTRACT:

To the extent possible, the City will endeavor to combine requests for service into a minimum of eight (8) hours of time.

Items:

1. Call Out and Determination of Cause of Outage (each time):

The City of Livonia will notify the contractor when there is an outage. The pay item #1 "Call Out and Determination of Cause of Outage" (each time) means that when the City has outages on more than one system the City will pay one call out for each three-system outage per call. The contractor will be expected to respond to the call and determine the cause of the outage within 48 hours (excluding Saturdays, Sundays, and Holidays). If the contractor cannot respond within the 48 hours, he must contact the City at the time of notification.

If the outage is caused by an item of work in the contract, the contractor will proceed with the work. If the outage is caused by something other than contract items, or by underground cable, the contractor must notify the City of the cause and receive approval before proceeding. These items will be paid for by the hourly rates described in the bid proposal.

2. Lamp:

Defective lamps shall be replaced with the proper lamp.

3. Ballast:

Defective ballasts shall be replaced with the proper ballast.

4. Starter:

Defective starters shall be replaced with the proper starter.

5. Fuse:

Defective fuses shall be replaced with the proper fuses, the pay item #5 "Replace Fuse" (per pole or per electric box*) payments will be made per pole or per electric box, not for each fuse replaced in the pole or electric box.

6. Lens:

Defective lens shall be replaced with the proper lens.

7. Photo-Cell:

Defective photocells shall be replaced with proper photocells.

8. Breakers:

Defective breakers shall be replaced with proper breakers.

9. Tighten and lubricate anchor bolts, Refractor, glassware and lamps:

All anchor bolts and associated nuts, studs and couplings, shall be checked for soundness, then tightened and lubricated. Opening up the door, cleaning out debris and brushing out small particles, shall inspect horizontal refractor and glassware. Glassware is to be washed inside and outside with a wet sponge and dried. If still not clean, the glassware shall be removed and polished or replaced. The lamps shall be removed and replaced. The City will furnish the lamps.

10. Remove and Replace the Fixture

Should an existing fixture need to be replaced, this price shall include the removal of existing fixture and replacing it with new. The work will include installing the ballast, lamp, and all parts and wire necessary to get it to work properly.

11. Hourly Labor Rate Per Crew

When performing underground work, etc. not already specified, the crew will include a minimum of one journeyman Electrician and one Instrument Technician.

12. Hourly Rate for Journeyman Electrician:

The hourly rate should include one Journeyman Electrician.

13. Hourly Rate for Backhoe/Operator:

The hourly rate should include a backhoe with the operator.

14. Hourly Rate for Service Truck with Crane/Operator:

The hourly rate should include a Service Truck/Crane with the operator.

All work shall be performed by licensed JOURNEYMAN and/or level worker to perform the assigned task in accordance with applicable Michigan Licensing Laws

COMPANY INFORMATION:

COMPANY NAME

ADDRESS

SIGNATURE OF AUTHORIZED COMPANY REPRESENTATIVE:

TITLE

TELEPHONE NUMBER:

EMAIL:

IMPORTANT NOTE:

To qualify as a respondent to the bid, the vendor must submit a bid or return this completed form.

VENDOR REGISTRATION: The City of Livonia uses the MITN website for vendor registration, bid and tabulation posting, award information and other processes. Final bid results will be posted on the MITN website after award. Please register to see results - www.mitn.info.

ACKNOWLEDGEMENT:

I, _____, certify that I have read the Instructions to Bidders (Pages 1 - 3) and that the bid proposal documents contained herein were obtained directly from the City's Purchasing Department or MITN website; www.mitn.info and is an official copy of the Authorized Version.

SIGNATURE OF AUTHORIZED COMPANY REPRESENTATIVE

STATEMENT OF NO BID:

TITLE: PARKING, ATHLETIC, STREET LIGHTING, AND GENERAL MAINTENANCE - CITY OF LIVONIA

Please respond as if bidding on the job and indicate that:

We, the undersigned, have **declined to bid** on the subject bid for the following reasons:

Check All That Apply

REASON

- ☐ Our company does not handle the type of product / service
- ☐ We cannot meet the specifications nor provide an approved alternate – please explain below
- ☐ Our company is not interested in bidding at this time
- ☐ Job is too small
- ☐ Job is too large
- ☐ Cannot be competitive
- ☐ Liability Issues such as insurance, bonding, indemnification, hold harmless
- ☐ Insufficient time to respond – please explain below
- ☐ Our company's schedule would not permit performance of the specifications
- ☐ Other – describe below

REMARKS:

PROOF OF INSURANCE FOR CITY OF LIVONIA

Information required by the Federal specifications for Highway construction and/or Act 327, P.A. of 1945 to verify insurance.

The subscribing insurance company certifies that insurance of the types and for limits of liability covering the work under contract with City of Livonia has been obtained by the contractor named below and that the City of Livonia is an additional insured as to all General Liability/commercial General Liability coverage. Such insurance, here certified, is written in accordance with the company's regular policies and endorsements subject to the company's applicable manuals or rules and rate, except (1) the insurance shall not be subject to the usual "x" – explosion, "c" – collapse or "u" – underground property.

The insurer shall agree to provide the City of Livonia, in writing, the following:

1. A 30-day prior notice of any insurer-initiated cancellation or reduction in coverage for reasons other than nonpayment of the premium.
2. A 10-day prior notice of any cancellation or reduction in coverage for nonpayment of the premium.
3. Immediate notice of Contractor's cancellation or reduction of coverage.

The contractor shall cease operations if any insurance is cancelled or reduced, and shall not resume operations until new insurance is in force.

NAME OF INSURED					
ADDRESS			CITY		STATE
TELEPHONE NO.			FAX NO.		

TYPE OF INSURANCE	POLICY NUMBER&NAME OF INSURANCE COMPANY (If more than one)	POLICY EFFECTIVE	DATES EXPIRATION	LIMITS: Each Occurrence: \$1,000,000 Aggregate: \$2,000,000 BODILY INJURY AND PROPERTY DAMAGE LIABILITY
General Liability				General Aggregate
Commercial General Liability				Prods. comp/ops Aggregate
Claims Made Occurrence				Personal &Advertising Inj.
\$_____ P.D. Deductible				Each Occurrence
XCU Exclusion				Fire Damage (any one fire)
Owners/Contractors Protective				Medical Exp. (any one person)
AUTOMOTIVE LIABILITY				Combined Single Limit (Minimum \$2,000,000.00)
Any Auto				
All Owned Autos				Bodily Injury (per person) (Minimum \$500,000.00)
Scheduled Autos				
Hired Autos				Bodily Injury (per accident) (Minimum \$1,000,000.00)
Non-Owned Autos				
Garage Liability				Property Damage (Minimum \$1,000,000.00)
Umbrella				Each Occurrence
				Aggregate
Excess Liability Other Than Umbrella				Each Occurrence
				Aggregate
WORKERS COMPENSATION AND EMPLOYERS LIABILITY				STATUTORY
				\$ (Each Accident)
				\$ (Disease- Policy Limit)
				\$ (Disease- Each Emply.)
Other				

NAME OF AGENCY		NAME OF INSURANCE COMPANY (If only one for all policies)	
ADDRESS		CITY	STATE
TELEPHONE NO		FAX NO.	

PROOF OF LIABILITY INSURANCE REQUIREMENT
CITY OF LIVONIA PROJECTS

Insurance *Carrier* letterhead
(NOT agent or agency letterhead)

SAMPLE

Date

City of Livonia
12973 Farmington Road
Livonia, MI 48150

Ref: **Name of Company (vendor)**
Carrier: **Name of Insurance Carrier**
Policy No: **number**
Policy Term: **START and END dates**

To Whom It May Concern:

Refer to attached certificate issued **(date)** and the following:

Notwithstanding the disclaimers on the referenced certificate, the coverages, coverage amounts, and expiration dates stated on the certificate are true and correct in all particulars, and the attached endorsement describes the notice the city of Livonia will receive prior to any change or cessation of coverage.

Sincerely,

Name
Title
Company

**PROOF OF LIABILITY INSURANCE REQUIREMENT
CITY OF LIVONIA PROJECTS**

THIS ENDORSEMENT CHANGES THE POLICY, PLEASE READ IT CAREFULLY

EARLIER NOTICE OF CANCELLATION PROVIDED BY US

Ref: **Name of Company (vendor)**
Carrier: **Name of Insurance Carrier**
Policy No: **number**
Policy Term: **START and END dates**

SAMPLE

Number of days' notice: **30**

For any statutorily permitted reason, the number of days required for notice of cancellation is increased to the number of days shown in the schedule above.

If this policy is cancelled by us we will send the named insured and any party listed in the following schedule, notice of cancellation based on the number of days' notice shown above.

SCHEDULE

Name of Person or Organization

The name of Person or Organization is any person or organization holding a certificate of insurance issued for you, provided the certificate:

1. Refers to this policy;
2. States that notice of:
 - a. Cancellation;
 - b. Nonrenewal, or
 - c. Material change reducing or restricting coverage;

Will be provided to that person or organization;

3. Is in effect at the time of the:
 - a. Cancellation
 - b. Nonrenewal; or
 - c. Material change reducing or restricting coverage; and
4. Is on file at your agent or broker's office for this policy.

Mailing Address

The mailing address is the address shown for that person or organization in that certificate of insurance.

CERTIFICATE OF INSURANCE FOR CITY OF LIVONIA PROJECTS

Transportation

1304A (05/06)

City of Livonia

INSTRUCTIONS: All information must be submitted on Form 1304A. Any other form is invalid.

This insurance company certifies that insurance of the types and for limits of liability covering the work under contract with City of Livonia has been obtained by the contractor named below and that the City of Livonia is an additional insured as to all General Liability/Commercial General Liability coverage. Such insurance, when certified, is written in accordance with the company's regular policies and endorsements subject to the company's applicable manuals of rules and rates, except (1) the insurance shall not be subject to the "U.S. explosion, earthquake, collapse or underground property damage" exclusions.

The insurer shall agree to provide the City of Livonia, in writing, the following:

1. A 30-day prior notice of any insurer-initiated cancellation or reduction in coverage for reasons other than nonpayment of the premium.

2. A 10-day prior notice of any cancellation or reduction in coverage for nonpayment of the premium.

3. Immediate notice of Contractor's cancellation or reduction of coverage.

The contractor shall cease operations if any insurance is cancelled or reduced, and shall not re-employ until new insurance is in force.

NAMED INSURED

THE SMITH COMPANY

ADDRESS 12345 AVENUE TELEPHONE NO. (734) 123-4567	CITY LIVONIA FAX NO.
STATE MI ZIP CODE 12345	

ALL WORK PERFORMED FOR THE CITY OF LIVONIA AS A PRIME OR SUBCONTRACTOR

TYPE OF INSURANCE	POLICY NUMBER & NAME OF INSURANCE COMPANY (if more than one)	EFFECTIVE DATE	TERMINATION DATE	LIMITS: Each Occurrence: Aggregate: 800,000 INJURY AND PROPERTY DAMAGE UMBRELLA
General Liability				General Aggregate \$2,000,000.00
Commercial General Liability				Prods. comp/ops Aggregate \$2,000,000.00
Claims Made Occurrence				Personal & Advertising Inj. \$1,000,000.00
Professional Deductible				Medical Expense \$1,000,000.00
Construction				Fire Damage (any one fire) \$
Professional Liability				Medical Exp. (any one person) \$5,000.00
AUTOMOTIVE LIABILITY				Combined Single Limit (Maximum \$2,000,000.00) \$2,000,000.00
Any Auto				Sodily Injury (per person) (Minimum \$500,000.00) \$500,000.00
All Owned Autos				Medical (per accident) (Minimum \$1,000,000.00) \$1,000,000.00
Scheduled Autos				Property Damage (Maximum \$1,000,000.00) \$1,000,000.00
Limited Auto				Each Occurrence \$1,000,000.00
Non-Owned Auto				Aggregate 1,000,000.00
Garage Liability				Each Occurrence \$1,000,000.00
Umbrella				Aggregate \$1,000,000.00
Excess Liability Other Than Umbrella				Each Occurrence \$1,000,000.00
WORKERS COMPENSATION AND EMPLOYERS LIABILITY				Aggregate \$1,000,000.00
				STATUTORY
				500,000.00 (Each Accident)
				\$500,000.00 (Claim Limit)
				\$500,000.00 (Disease - Each Employee)
Other				

NAME OF AGENCY AMERICA'S INSURANCE COMPANY	NAME OF INSURANCE COMPANY (If only one firm all parties)
ADDRESS 121 STREET	CITY ANN ARBOR
TELEPHONE NO. (734) 765-4321	STATE MI ZIP CODE 48106

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**ADVANCE NOTICE OF CANCELLATION,
NONRENEWAL OR COVERAGE REDUCTION OR
RESTRICTION PROVIDED BY US**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Person(s) or Organization(s)	Address
CITY OF LIVONIA	12973 FARMINGTON ROAD LIVONIA, MI 48150

Number of Days Notice 30

If this policy is cancelled (other than nonpayment of premium) or nonrenewed or if the coverage provided by this policy is reduced or restricted (except for any reduction in the Limits of Insurance due to claims payments), we will provide written notice to the person(s) or organization(s) listed in the Schedule.

We will provide this notice by mail 30 days in advance of any policy cancellation, nonrenewal or coverage reduction or restriction or as indicated in the Number of Days Notice in the Schedule.

All terms and conditions of this policy apply unless modified by this endorsement.

ADDITIONAL INFORMATION - IAH 11.00H 1.00VI.00HNNII.00NI AL
SUBDIVISION - PERMITS OR AUTHORIZATIONS

OWNERS AND CONTRACTORS PROTECTIVE LIABILITY COVERAGE PART

State Or Governmental Agency Or Subdivision Or Political Subdivision:

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

All terms and conditions apply unless modified by this endorsement.

CONTRACT

THIS CONTRACT, entered into this _____ day of _____ A.D. 2025, between the CITY OF LIVONIA, hereinafter referred to as the Owner, party of the first part, and _____ Hereinafter referred to as the Contractor, party of the second part.

WITNESSETH, that the said Contractor, for the consideration mentioned in the various items set forth below, by these presents does agree that he will furnish all labor, materials, machinery, tools and equipment and do all things necessary for and incidental to the **Parking, Athletic, Street Lighting and General Electrical Maintenance (June 1, 2025 – May 31, 2028)** together with appurtenances thereto, as set forth in certain Instructions to Bidders, Proposal, General Conditions, Specifications, Bonds, Plans, Drawings, and the following documents, all of which are attached hereto and made a part of this agreement:

IN CONSIDERATION WHEREOF, said Owner does agree to pay to said Contractor the sum of \$ _____, for a total of \$ _____ for the (four) year contract, based upon the amounts and sum listed in the Proposal; which is subject, however, to adjustment by reason of any change in, addition to, or deduction from the work, as provided in the General Conditions.

For the faithful performance of all and singular terms and stipulations contained in this agreement, said parties respectively bind themselves, their heirs, executors, administrators, successors and assigns.

IN WITNESS WHEREOF, said parties have this day hereunto set their hands
and seals, in triplicate.

Witness:

CITY OF LIVONIA, Owner

By _____
Maureen Miller Brosnan, Mayor

Susan Nash, City Clerk

Contractor

Approved:

Donald R. Rohraff
Director of Public Works

Michael T. Slater
Director of Finance

Approved as to form:

Department of Law

Pursuant to Resolution # _____

Adopted by City Council on _____

CONTRACTOR'S DECLARATION

I hereby declare that I have not, during the period _____
to _____, A.D. 2025 _____, performed any work, furnished any
material, sustained any loss, damage or delay for any reason, including soil conditions
encountered or created, or otherwise done anything for which I shall ask, demand, sue
for, or claim compensation from the City of Livonia - Department of Public Works, the
Owner, or its agents, in addition
to the regular items set forth in the contract numbered _____, and dated
_____, A.D., 2025 _____,
for _____

executed between myself and the City of Livonia and in the Change Orders for work
issued by the City of Livonia in writing as provided thereunder, except as I hereby make
claim for additional compensation and/or extension of time, as set forth on the itemized
statement attached hereto.

There is/is not (circle one) an itemized statement attached.

The Contractor further certifies that all his indebtedness for labor and material
incorporated in the work covered by this estimate has been fully paid and/or satisfactory
arrangements with material supplies have been made.

Contractor

By _____

Title _____

Date: _____

CD

CONTRACTOR'S AFFIDAVIT

STATE OF MICHIGAN)
 ss
COUNTY OF _____)

The undersigned Contractor, _____,
hereby represents that on _____ he (it) was awarded a Contract by the
City of Livonia, Wayne County, Michigan, to

in accordance with the terms and conditions of Contract No. _____, and the
undersigned further represents that the subject work has now been accomplished and
the said Contract has now been completed.

The undersigned hereby warrants and certifies that all of his (its) indebtedness
arising by reason of the said Contract has been fully paid or satisfactorily secured; and
that all claims from subcontractors and others for labor and material used in
accomplishing the said project, as well as all other claims arising from the performance
of said Contract, have been fully paid or satisfactorily settled. The undersigned further
agrees that, if any such claim should hereafter arise, he (it) shall assume responsibility
from the same immediately upon request to do so by the City of Livonia.

The undersigned, for a valuable consideration, the receipt of which is hereby
acknowledged, does waive, release and relinquish any and all claims of right of lien
which he (it) now has or may hereafter acquire upon the subject premises for labor and
material used in accomplishing said project owned by the said City of Livonia.

This affidavit is freely and voluntarily given with full knowledge of the fact, on this
_____ day of _____, 20_____.

Subscribed and sworn to before me
on this _____ day of _____,
20_____.

Contractor

By: _____

Title: _____

Notary Public _____ County, MI
My Commission Expires: _____

BID OPENING SHEET – ELECTRICAL MAINTENANCE**DUE DATE: 5/20/2025**

VENDOR NAME	Decima LLC	Great Lakes Power and Lighting	RCI Electric LLC
CITY/STATE	16870 Schaefer Hwy., Detroit, MI 48235	9646 26 Mile Rd., Casco, MI 48064	4999 McCarthy Drive, Milford, MI 48381
HOURLY RATE FOR JOURNEYMAN	\$120	\$80	\$90
HOURLY RATE FOR APPRENTICE	\$60	\$55	\$90
MATERIAL COST + % MARKUP	%10	%10	%15(material) 10(equipment)
EMERGENCY RESPONSE TIME	4 Hours	2-4 Hours	2-4 Hours
FIELD DISPATCH COST IF NO WORK PERFORMED	\$350.00	\$175.00	\$180

CITY REPRESENTATIVES: **Aaron Lindenmuth, Clerk's Office** **Gus Kandah, Purchasing Manager**

**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD JULY 07, 2025**

11.

Meeting was called to order at 9:08 p.m. by Vice President Ptashnik. Present: Scott Morgan, Laura Toy, Rob Donovic, Carrie Budzinski, Lynda Scheel, and Vice President Ptashnik. Absent: Council President McCullough.

Elected and appointed officials present: Carter Fisher, City Attorney; Lori L. Miller, City Clerk; Mark Taormina, City Planner and Economic Development Director; Dave Lear, Assistant City Engineer.

Councilmember Toy led the meeting with the Pledge of Allegiance.

16. REQUEST TO WAIVE THE FORMAL BIDDING PROCESS AND EXTEND CONTRACT WITH HAVENER TECH: Department of Public Works, re: the completion of all repair work required in connection with catch basin, storm sewer, and concrete slab stabilization, in an amount not to exceed \$100,000.00 annually, from budgeted funds. (CR 286-23)

Don Rohraff, Public Works Director, verified the capabilities of Havener Tech having worked with the department for years and the great work provided.

Motion was made by Councilmember Scheel to put the matter on the Consent portion of the next Regular Agenda.

DIRECTION:

APPROVING

CONSENT



LETTER TO THE LIVONIA CITY COUNCIL

16.

DPW
June 11, 2025

MEETING DATE

PRESENTED BY

S070725/R072125

AGENDA ITEM

REQUEST TO WAIVE THE FORMAL BIDDING PROCESS AND EXTEND CONTRACT WITH HAVENER TECH: Department of Public Works, re: the completion of all repair work required in connection with catch basin, storm sewer, and concrete slab stabilization, in an amount not to exceed \$100,000.00 annually, from budgeted funds. (CR 286-23)

BACKGROUND DETAILS

The Department of Public Works is always looking for progressive, less intrusive, and safer ways of performing preventative maintenance on buried infrastructure. The catch basin, storm sewer, and concrete slab stabilization services technique provides another tool that can be used by Department staff to make repairs to our aging infrastructure. The City is responsible for the repair and maintenance of over 26,000 catch basins and other storm water structures. As leaks occur in these structures and along storm pipes, this tool will allow, in some cases, the injection of a polyurethane foam to fill the voids and seal the leaking structures, thus eliminating the costly and disruptive process of excavating, rebuilding/replacing, repaving, and turf restoration. This quick, trenchless, and non-disruptive repair technique is being utilized by neighboring cities, townships, county road commissions, and the Michigan Department of Transportation.

The Department of Public Works has worked with Havener Tech over the past five years on the repair of 300 road catch basins using their quick, trenchless technology. We've also been impressed with their capabilities of services to perform large storm culvert and concrete slab stabilization. The original 2018 as-needed catch basin, storm sewer, and concrete slab stabilization services was publicly advertised and competitively bid on the Michigan Intergovernmental Trade Network (MITN) procurement system by the City of Farmington Hills. That bid was made available to other cities, counties, and governmental agencies through the MITN Purchasing Cooperative. Livonia took advantage of that opportunity and entered into an agreement with Havener Tech for those services under the same prices, terms, and conditions. (Ref: #286-23) Havener Tech has agreed to provide a five-year extension through 2029 at their current contract price (see attached letter).

The funding for this contract is budgeted within the road maintenance fund and will improve our ability to quickly stabilize failing catch basins and storm sewers while saving money for the City of Livonia. The Department of Public Works is requesting a "not to exceed" amount of \$100,000 per year to make the necessary repairs and infrastructure system improvements.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

It is the recommendation of the Department of Public Works that Council proceed as follows.

1. Award a five-year contract extension to Havener Tech, 433 Elmwood, Troy, MI 48083, through November 30, 2029, for an amount not to exceed \$100,000.00 annually for completing all repair work required in connection with catch basin, storm sewer, and concrete slab stabilization. Funding is available through the approved Road Maintenance Budget account number 204-463-818-119.
2. Waive the formal bidding process in accordance with Section 3.04.140.D.4 of the Livonia Code of Ordinances, as amended, since no advantage to the City would result from competitive bidding in this situation.

SPECIFIC NAME OF PRODUCT AND NUMBER TO BE PURCHASED (if more than one)

Catch basin, storm sewer and concrete slab stabilization

CONTRACT: Amount and/or purchase price and length of contract (with dates if applicable)

Five-year extension of current contract, through November 30, 2029

DETAILED WORK BEING PERFORMED

Repair of catch basins and other storm water structures.

FISCAL CONSIDERATIONS (Amount requested and Account(s) used. If applicable, Grant Funding information)

\$100,000 annually
GL # 204-463-818-119 - Road Maintenance

ACCEPTANCE OF BID (Please detail the following: Why accepted, why not lowest bidder, company name, contact person, full address)

Piggybacked with Farmington Hill's bid through the MITN purchasing cooperative.

REASON TO WAIVE BID PROCESS (Emergency, Professional services, No advantage to City and why, Consortium package, etc): Waive the formal bidding process in accordance with Section 3.04.140.D.4 of the Livonia Code of Ordinances, as amended, since no advantage to the City would result from competitive bidding in this situation.

ATTACHMENTS

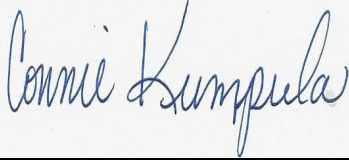
1. Havener Tech 2025-2029

APPROVED BY



Don Rohraff, Director of Public Works

Date: June 16, 2025



Connie Kumpula, Chief Accountant

Date: June 17, 2025



Maureen Miller Brosnan, Mayor

Date: June 20, 2025



5.19.2025

Trisha Gabriel
Superintendent of Public Services
City of Livonia
Department of Public Works
12973 Farmington Road
Livonia, Michigan, 48150

Re: MITN contract Bid #itb-fh-23-24-2456 extension Pricing

Mrs. Gabriel,

This letter is to inform you that Havener Tech will honor the Farmington Hills 2025/2026 MITN contract Bid #itb-fh-23-24-2456 bid pricing, Per below, to the city of Livonia for FY 2024/2025 (our current FY), FY 2025/2026, FY 2026/2027, FY 2027/2028, and FY 2028/2029 with a 0% per year increase in price.

Idem #1 Injection storm water Structure Each \$575.00
Idem # 2 Injection storm water pipe or concrete slab Lb. \$3.00
Idem #3 Mobilization LS \$0

Respectfully submitted,
Mike Guerin

President
Havener Tech, LLC

**CITY OF FARMINGTON HILLS – DPW
2024 AS NEEDED CATCH BASIN, STORM WATER PIPE AND
CONCRETE SLAB STABILIZATION PROGRAM**

CONTRACT SUM

All Prices to include parts & labor. Quantities listed are estimates for evaluation purposes only. The City will schedule work as needed.

ITEM #	DESCRIPTION	UNIT	QTY	UNIT PRICE	AMOUNT
1.	Injection stabilization of Storm Water Catch Basin	EA	15	\$ 575.00	\$ 8625.00
2.	Injection stabilization of Storm Water Pipe or Concrete Slab	LB	10,000	\$ 3.00	\$ 30,000.00
3.	Mobilization	LS	5	\$ 0	\$ 0
TOTAL 2024 CONTRACT SUM					\$ 38,625.00

CONTRACT EXTENSION

The City of Farmington Hills reserves the right to extend the contract (beyond the first year) for four (4) additional one-year terms, through mutual consent with the successful bidder, under the same terms and conditions. Please indicate below your percentage of increase, over the unit prices listed above for each one (1) year extension of this contract.

Prices listed herein will increase 0 % each year beginning at the second year of award.



DEPARTMENT OF CENTRAL SERVICES

April 14, 2025

CONTRACT ADDENDA NOTICE NO. 1

EXTENSION OF CONTRACT NO. FH-23-24-2456

**2024 AS-NEEDED CATCH BASIN, STORM WATER PIPE AND CONCRETE
SLAB STABILIZATION PROGRAM**

NAME & ADDRESS OF VENDOR: Havener Properties DBA Havener Tech 433 Elmwood Troy, MI 48083 Contact – Michael Guerin (248) 890-1812 Fax (248) 291-5742 mguerin@havenertech.com	CONTRACT TERM: ORIGINAL: June 10, 2024, to June 9, 2025 RENEWAL/EXTENSION OPTION – OPTION 1 - June 10, 2025 – June 9, 2026, OPTION 2 - June 10, 2026 – June 9, 2027, OPTION 3 - June 10, 2027 – June 9, 2028, OPTION 4 - June 10, 2028 – June 9, 2029, accepted with a 0% per year increase in prices.
TERMS: Net 30	SENIOR BUYER: Nikki Lumpkin (248) 871-2435
F.O.B.: Delivered	COOPERATIVE: N/A

NATURE OF CHANGE(S):

All terms, conditions, specifications, and pricing provisions remain unchanged.

AUTHORITY/REASON:

CMR Approval CMR 6-24-59

TOTAL ESTIMATED CONTRACT VALUE:

ORIGINAL: \$38,625.00

CURRENT: AS NEEDED

ACCEPTANCE/APPROVAL OF CONTRACT ADDENDA

Signed: M. Guerin

Printed: MICHAEL GUERIN

Date: 4-25-2025

**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD JULY 07, 2025**

12.

Meeting was called to order at 9:08 p.m. by Vice President Ptashnik. Present: Scott Morgan, Laura Toy, Rob Donovic, Carrie Budzinski, Lynda Scheel, and Vice President Ptashnik. Absent: Council President McCullough.

Elected and appointed officials present: Carter Fisher, City Attorney; Lori L. Miller, City Clerk; Mark Taormina, City Planner and Economic Development Director; Dave Lear, Assistant City Engineer.

Councilmember Toy led the meeting with the Pledge of Allegiance.

17. REQUEST FOR ADDITIONAL APPROPRIATION: Department of Public Works, re: the unexpected trimming and removal of trees resulting from increased tree trimming requests and section trimming in 2025, from the Forestry Fund.

Don Rohraff, Public Works Director, expressed concern over the delays from a large storm last year, leading to increased costs and a large list of open tree requests.

Motion was made by Councilmember Toy to put the matter on the Consent portion of the next Regular Agenda.

DIRECTION:

APPROVING

CONSENT



LETTER TO THE LIVONIA CITY COUNCIL

17.

DPW
June 13, 2025

MEETING DATE

PRESENTED BY

S070725/R072125

AGENDA ITEM

REQUEST FOR ADDITIONAL APPROPRIATION: Department of Public Works, re: the unexpected trimming and removal of trees resulting from increased tree trimming requests and section trimming in 2025, from the Forestry Fund.

BACKGROUND DETAILS

Pursuant to Council Resolution No. 25-25, adopted January 27, 2025, the Council approved funding for Right-of-Way, Section Street Tree Trimming, Emergency Response and Emergency Removal Program for the 2025 season, with an option to extend for an additional one year at the City's discretion. The contract in the amount of \$250,000 annually was awarded to Boon Development (aka Sod Solutions).

Increased tree trimming requests and increasing section tree trimming work that was delayed as a result of storm damage from last year, resulted in much more work than expected. After a two-year hiatus, we have approximately 350 open tree trim requests.

With City Council's permission, we would like to increase the funds awarded to Sod Solutions from \$250,000 to \$425,000 (+\$175,000) within the current Forestry Budget.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

We request City Council to approve an increase to the contract with Sod Solutions by \$175,000.00 for emergency tree trimming from budgeted funds available in account no. 226-528-818-045 (Municipal Refuse Fund Contractual Services-Forestry), bringing the total budget for this program to \$425,000.00.

SPECIFIC NAME OF PRODUCT AND NUMBER TO BE PURCHASED (if more than one)

n/a

CONTRACT: Amount and/or purchase price and length of contract (with dates if applicable)

\$175,000.00

DETAILED WORK BEING PERFORMED

Continued funding of emergency Forestry work for the remaining season due to increased workload pushed back from last year due to the severe storms we experienced in 2024.

FISCAL CONSIDERATIONS (Amount requested and Account(s) used. If applicable, Grant Funding information)

\$175,000.00

ACCEPTANCE OF BID (Please detail the following: Why accepted, why not lowest bidder, company name, contact person, full address)

n/a

REASON TO WAIVE BID PROCESS (Emergency, Professional services, No advantage to City and why, Consortium package, etc): Vendor already in place

ATTACHMENTS

1. S070725 LTC Unexpected tree trim/removal

APPROVED BY



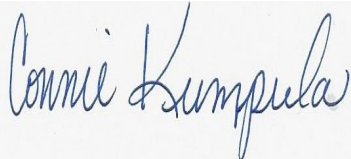
Douglas L. Moore, MSA, Assistant Director of Public Works

Date: June 16, 2025



Don Rohraff, Director of Public Works

Date: June 16, 2025



Connie Kumpula, Chief Accountant

Date: June 20, 2025



Maureen Miller Brosnan, Mayor

Date: June 20, 2025

**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD JULY 07, 2025**

13.

Meeting was called to order at 9:08 p.m. by Vice President Ptashnik. Present: Scott Morgan, Laura Toy, Rob Donovic, Carrie Budzinski, Lynda Scheel, and Vice President Ptashnik. Absent: Council President McCullough.

Elected and appointed officials present: Carter Fisher, City Attorney; Lori L. Miller, City Clerk; Mark Taormina, City Planner and Economic Development Director; Dave Lear, Assistant City Engineer.

Councilmember Toy led the meeting with the Pledge of Allegiance.

18. REQUEST FOR AUTHORIZATION TO PURCHASE ONE 2025 FORD F150 SUPER CAB XL 4X4 PICKUP TRUCK THROUGH THE STATE OF MICHIGAN AND MACOMB COUNTY BID PROCESS: Public Works Division, re: for use by the Water Supervisor, from budgeted funds.

Don Rohraff, Public Works Director, requested the authorization to purchase a vehicle for the use of the Water Supervisor.

Motion was made by Councilmember Morgan to put the matter on the Consent portion of the next Regular Agenda.

DIRECTION:

APPROVING

CONSENT



LETTER TO THE LIVONIA CITY COUNCIL

18.

DPW
June 17, 2025

MEETING DATE

PRESENTED BY

S070725/R072125

AGENDA ITEM

REQUEST FOR AUTHORIZATION TO PURCHASE ONE 2025 FORD F150 SUPER CAB XL 4X4 PICKUP TRUCK THROUGH THE STATE OF MICHIGAN AND MACOMB COUNTY BID PROCESS: Public Works Division, re: for use by the Water Supervisor, from budgeted funds.

BACKGROUND DETAILS

Recommendation to purchase one 2025 Ford F150 Super Cab XL 4x4 pickup truck for use by the Water Department Supervisor (ID# 433) through the State of Michigan Procurement Agreement (071B7700180) and the Macomb County Contract (#21-18) from Signature Ford, 1960 E. Main St., Owosso, MI 48867 at a cost of \$46,427.00 with upfitting of the vehicle to be done by Truck & Trailer Specialties, 900 Grand Oaks Dr., Howell, MI 48843 through the Rochester Hills Contract RFP-RH-20-023 at a cost of \$18,425. The total cost for this vehicle is \$64,852.00. This purchase will not increase our fleet size. A comparable unit will be disposed of through public auction.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

The DPW respectfully requests approval to purchase one 2025 Ford F150 Super Cab XL 4x4 pickup truck for use by the Water Department Supervisor (ID# 433) through the State of Michigan Procurement Agreement (071B7700180) and the Macomb County Contract (#21-18) from Signature Ford, 1960 E. Main St., Owosso, MI 48867 at a cost of \$46,427.00 with upfitting of the vehicle to be done by Truck & Trailer Specialties, 900 Grand Oaks Dr., Howell, MI 48843 through the Rochester Hills Contract RFP-RH-20-023 at a cost of \$18,425. The total cost for this vehicle is \$64,852.00.

SPECIFIC NAME OF PRODUCT AND NUMBER TO BE PURCHASED (if more than one)

Sufficient funds are budgeted in Water and Sewer account no. 592-559-142-000

CONTRACT: Amount and/or purchase price and length of contract (with dates if applicable)

n/a

DETAILED WORK BEING PERFORMED

n/a

FISCAL CONSIDERATIONS (Amount requested and Account(s) used. If applicable, Grant Funding information)

\$64,852.00
401-000-985-010

ACCEPTANCE OF BID (Please detail the following: Why accepted, why not lowest bidder, company name, contact person, full address)

Consortium pricing

REASON TO WAIVE BID PROCESS (Emergency, Professional services, No advantage to City and why, Consortium package, etc): Waive the formal bidding process in accordance with Section 3.04.140.E.4 of the Livonia Code of Ordinances, as amended since no advantage to the City would result from competitive bidding.

ATTACHMENTS

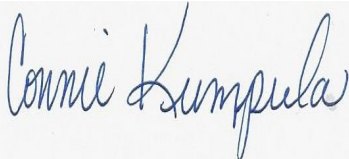
1. 2025 - F150 - Water - #433

APPROVED BY



Don Rohraff, Director of Public Works

Date: June 18, 2025



Connie Kumpula, Chief Accountant

Date: June 23, 2025



Maureen Miller Brosnan, Mayor

Date: June 23, 2025

DEPARTMENT OF PUBLIC WORKS
PUBLIC SERVICE DIVISION
FLEET MAINTENANCE

GARY T. GARRISON
FLEET MANAGER



JAMES (BUZZ) KIRBY
FLEET MANAGER

13405 SURREY STREET
LIVONIA, MICHIGAN 48150-1527
(734)-466-2704
FAX: (734)-466-2662

May 13, 2025

Purchase of one 2025 Ford F150 Super Cab XL 4X4 Pickup Truck with a 6 ½' Bed. This truck will be assigned to the Water Supervisor. The City Identification Number will be #433.

This vehicle will be purchased from Lunghamer Ford, 1960 E. Main St. Owosso, MI. 48867 at a cost of \$46,427.00. Utilizing the State of Michigan contract #MA 240000001208 and Macomb County Contract # 21-18 Bid. To provide us with the best possible price.

I am recommending that we use Truck & Trailer Specialties, Inc. 900 Grand Oaks Drive, Howell, MI 48843 to do the upfitting which the cost is based on the City of Rochester Hills Contract RFP-RH-20-023 Awarded September 2020. Some of the upfitting will include custom safety lighting for protection when working in the roadway, non-slip Luverne grip strut running boards, spray-on bed liner, tonneau cover, pack rat toolbox, Timbren suspension enhancement for the Boss 7'6" stainless snowplow. The cost of this upfitting will be \$18,425.00.

The completed cost of this truck will be \$ 64,852.00. If approved this cost will come from approved budgeted funds in account 401-000-985-010.

If you have any questions, or require additional information, I can be reached at ext. 2641.

Gary T. Garrison
Fleet Manager

TRUCK & TRAILER *Specialties, Inc.*

900 Grand Oaks Drive | Howell, MI 48843 | www.ttspec.com | ph: (517) 552-3855 | fx: (517) 552-3666

April 21, 2025

City of Livonia
13405 Surrey Street, Livonia, MI 48150
Gary Garrison, ph: (734) 466-2641 & Buzz Kirby, ph: (734) 564-6594
HQ0005072

Equipment Quotation

The following pricing will be based on City of Rochester Hills RFP-RH-20-023 contract awarded September 2020

Chassis information (Water):

2025 Ford F150 XL, SuperCab, 4x4, 5.0L gas, 6.5' bed, vinyl flooring, OEM backup alarm & OEM brake controller
Truck: #433 Tom

Install Custom Lighting & Electrical including the following:

In-cab switches in dash for wig-wag & warning lighting (2 switches, 1 for wig wag and 1 for flashers)

Four (4) SoundOff mPower (mo. EMPS20V38-P) amber/green flashers mounted:

Two (2) in chassis grille

Two (2) near license plate

Two (2) SoundOff nForce (mo. ENFSLSDG12) amber/green flashers mounted in side windows w/brackets

Two (2) SoundOff nForce (mo. ENFSLSDG12) amber/green flashers mounted in rear windows w/brackets

One (1) Maxxima (mo. MLS-STTB0060) STT/BU rear strip light, 60" mounted between tailgate & bumper

SoundOff "wig-wag" circuit for rear STT & front headlights

Install BAKFlip MX4 tonneau cover, tri-fold model for 6.5' bed (mo. 448337)

Install Weather Guard Pack Rat toolbox, 48"L x 30"W x 13"H, mounted curbside in bed (mo. 337-3)

Install WeatherTech Floor Liners, 1st row-only, Black (mo. 446971V 2024 series)

Install Luvorne Grip-Step running boards for SuperCab (mos. 415078 & 401523)

Install 7-way Round Pin Plug (standard Livonia pin diagram) delete factory 7-way RV

Install Spray-on bed liner in cargo area of pickup bed including floor, sides, tailgate and bulkhead

Install Timbren suspension enhancement system for front axle (mo. FF150H)

Install Boss 7'6" HTX Stainless Steel Blade Snow Plow including the following:

Stainless steel straight blade

Rubber snow deflector and blade guides

Includes truck undercarriage mount, wiring harnesses and in-cab SmartTouch2 controls

Plow lights with Smart Light3 LED lighting

Above installed equipment pricing: \$18,425.00 ea.

Payment Terms: Net 30. Pricing effective for 30 days.

FOB: City of Livonia

Delivery: 2-3 months ARO, depending on chassis arrival

Thank you for the opportunity to quote.

Respectfully submitted by,
Jon Luea/Brian Bouwman



April 16, 2025

City of Livonia DPW
Attn: Gary Garrison
12973 Farmington Road
Livonia, MI 48150

Dear Gary Garrison:

Price on 2025 Vehicle State of Michigan Contract# MA 240000001208 and Macomb County Contract# 21-18 Bid:

(1) 2025 Ford F150 Super Cab XL 4x4 Pickup 6 ½' Box in White \$46,427.00 ea
*** #433 Water**

Order Cutoff Date: TBD.

Delivery date: Approximately 90-120 Days A.R.O.

Standard Service Contract: 36,000 miles or 36 months factory Bumper to Bumper Warranty and 60,000miles 60 months Powertrain Warranty. Service to be handled by your local Ford Dealer.

Ford Motor Company does not guarantee delivery---Ford Motor Company will make reasonable efforts to schedule orders received prior to fleet order cut-off date.

Payment requirements: All departments to pay on delivery of vehicle. 10-day grace period will be given if previous arrangements have been made. A \$9.50 per day floor plan will be charged if payment is not at the dealership within 10 days of delivery of the vehicle (s).

If you have any questions please call me, 888-92-FLEET (923-5338)

Respectfully Submitted,

Bill Campbell

Bill Campbell
Government & Fleet Sales

1960 E Main St Owosso, MI 48867, 888-92-FLEET (888.923.5338) Fax 517-625-5832

2025 F-150 Super Cab XL Major Standard Equipment

MECHANICAL

- 2.7L V6 EcoBoost® with Auto Start-Stop Technology (standard on 141" and 145")
- 5.0L V8 with Auto Start-Stop Technology (standard on 122" and 157")
- 4x4 Electronic Shift-On-the-Fly (ESOF) with Neutral Towing Capability
- Auto Hold
- Axle, Front – Independent Front Suspension (IFS)
- Brakes – 4-Wheel Disc with ABS
- Selectable Drive Modes: Normal, ECO, Sport, Tow/Haul, Slippery, Trail – 4x2 only
- Selectable Drive Modes: Normal, ECO, Sport, Tow/Haul, Slippery, Deep Snow/Sand, Mud/Rut – 4x4 only
- Electronic Ten-Speed Automatic Transmission • Fail-Safe Cooling
- Jack
- Electric Parking Brake
- SelectShift® Automatic Transmission with Progressive Range Select
- Shock Absorbers, Gas – Heavy-Duty, Front
- Shock Absorbers, Gas – Heavy-Duty, Outboard Mounted, Rear
- Springs, Front – Coil
- Springs, Rear – Leaf, Two-Stage Variable Rate • Stabilizer Bar, Front
- Steering – Power, Rack-and-Pinion

EXTERIOR

- Bed Storage Boxes (NA w/ 8' Box)
- Bumper and Fascia, Front – Black
- Bumper, Rear – Black
- Cargo Lamp – integrated with Center High-mounted Stop Lamp
- Daytime Running Lamps (DRL) (On/Off Cluster Controllable)
- Easy Fuel® Capless Fuel-Filler
- Exhaust – Single Rear
- F-150 Fender Badge
- Fuel Tank
- Standard Range 23 Gallon (Regular Cab 6.5' Box)
- Extended Range 36 Gallon (Regular Cab (NA w/ 6.5' Box), SuperCab and SuperCrew®)
- Fully Boxed Steel Frame
- Grille – Black Coast to Coast
- Handles, Black – Door and Tailgate with Black Bezel
- Hooks – Pickup Box Tie-Down, four (4)
- Hooks – Front Tow 4x4, two (2)
- Mirrors, Sideview – Manual-folding, Power Glass with Heat and Black Skull Caps
- Power Tailgate Lock
- Spare Tire Carrier – Rear Under Frame
- Spare Tire
- Stone Cuffs, Front & Rear
- Tailgate Lift Assist
- Tailgate – removable with key lock
- Tires
- 245/70R 17 BSW all-season tires (A/S) 4x2
- 265/70R 17 BSW all-terrain tires (A/T) 4x4
- Trailer Sway Control
- Trailer Towing – 4-pin wiring, ball mounting provisions in rear bumper
- Wheels – 17" silver steel
- Wipers – Intermittent speed

INTERIOR/COMFORT

- 12" Productivity Screen in Instrument Cluster
- Air Conditioning Registers – Black Vanes with Chrome Knob
- Auxiliary Audio Input Jack
- Black Vinyl Floor Covering
- Compass Display in Instrument Cluster
- Cruise Control
- Dome Light • Door trim – Soft armrest, grab handle and front map pockets
- Fade-to-Off Interior Lighting
- Gauges and Meters – Fuel, Oil Pressure, Transmission Temperature and Engine Coolant Temperature Gauges; Speedometer, Odometer and Tachometer
- Grab Handles
- Front – A-Pillar, Driver and Passenger Side — Rear – B-Pillar (SuperCrew®)
- Horn – Dual-Note
- Illuminated Entry
- Manual Air Conditioning, Single Zone
- Outside Temperature Display
- Powerpoint 12V
- Power Door-Locks with Flip Key and Integrated Key Transmitter
- Keyless-Entry (incl. Autolock)

- Power Windows (Front/Rear) – One-touch Up/Down Driver and Passenger Front Windows (Rear Power Windows not available on Regular Cab)
- Rear-window with Fixed Glass and Solar Tint
- Rearview Mirror, Day/Night
- Scuff Plates – MIC, Front
- Seat, Front
- Vinyl 40/20/40
- 2-Way manual driver/passenger
- Armrest
- Seat, Rear
- Vinyl
- USB charging ports – two (2)
- 60/40 flip-up split seat (SuperCab)
- 60/40 flip-up split seat with elongated cushion (SuperCrew®)
- Steering Wheel, Black Urethane – Manual Tilt/Telescoping and Manual Locking
- Visor, Driver Side; Visor with Mirror, Passenger-Side

SAFETY/SECURITY

- AdvanceTrac® w/RSC® (Roll Stability Control™)
- Airbags
- Driver and Passenger Front Airbags
- Driver and Passenger Seat-Mounted Side Airbags — Safety Canopy® Side-Curtain Airbags (1st and 2nd row coverage)
- Curve Control
- LED Reflector Headlamps – Black Bezels
- Perimeter Alarm
- Rainlamp Wiper Activated Headlamps
- Seat Belts, Active Restraint System (ARS). Three-point Manual Lap/Shoulder Belts with Height Adjusters, Pretensioners & Energy Mgmt Retractors on Outside Front Positions. Includes Autolock Features for Child Seats
- SecuriLock® Passive Anti-Theft System (PATS)
- SOS Post-Crash Alert System™
- Tire Pressure Monitoring System (TPMS)
- Stolen Vehicle Services (1-year Plan Included)
- Ford Co-Pilot360™ 2.0
- Pre-Collision Assist with Automatic Emergency Braking (AEB)
- Pedestrian Detection
- Forward Collision Warning
- Dynamic Brake Support
- BLIS® with Cross-Traffic Alert
- Lane-Keeping System
- Lane-Keeping Alert
- Lane-Keeping Aid
- Driver Alert
- Rear View Camera
- Auto High Beams
- Reverse Sensing System
- Reverse Brake Assist
- Post-Collision Braking
- Autolamp – Auto On/Off Headlamps

FUNCTIONAL

- AM/FM Stereo (speakers; four (4) with Regular Cab, six (6) with SuperCab and SuperCrew®)
- Class IV Trailer Hitch (incl. Smart Trailer Tow Connector, 7/4 pin-connector; Class IV trailer hitch receiver)
- FordPass™ Connect (5G)
- 5G LTE Wi-Fi hotspot connects up to 10 devices
- Schedule specific times to remotely start vehicle
- Locate parked vehicle
- Check vehicle status
- Hill Start Assist
- SYNC® 4 with Enhanced Voice Recognition (Incl. SiriusXM® with 360L)
- 12" LCD Capacitive Touchscreen with Swipe Capability
- Wireless Phone Connection
- Cloud Connected
- AppLink® w/App Catalog
- 911 Assist®
- Apple CarPlay® and Android Auto™ Compatibility
- Digital Owner's Manual
- Conversational Voice Command Recognition
- Connected Navigation.
- USB charging ports – two (2)
- USB data charging ports – two (2)

XL 101A Super Cab 6.5 Ft. Box 145" WB

[]	Base Price X1K, 4x2 (2.7L V6 EcoBoost™ engine 6365 GVWR) 99P/44G	\$38,874.00
[]	Base Price X1K, 4x2 (5.0L 4V V8 engine 6940 GVWR) 99S/44G	\$40,898.00
[]	Base Price X1K, 4x2 (3.5L V6 EcoBoost™ engine 6900 GVWR) 998/44G	\$40,898.00
[]	Base Price X1L, 4x4 (2.7L V6 EcoBoost™ engine 6550 GVWR) 99P/44G	\$42,286.00
[X]	Base Price X1L, 4x4 (5.0L 4V V8 engine 7100 GVWR) 99S/44G	\$44,472.00
[]	Base Price X1L, 4x4 (3.5L V6 EcoBoost™ engine 7100 GVWR) 998/44G	\$44,472.00

Free Standing Options

	Option Code	Price
[] Vinyl 40/20/40 Split Bench Seats	AS	N/C
[X] Cloth 40/20/40 Split Bench Seats	CS	N/C
[X] 8-way Power Driver's Seat	91P	350.00
[] LT265/70R17E BSW All-Terrain (A/T) Tires	T7C	295.00
[] Axle Locking Rear	XL	570.00
[] HIGH PACKAGE	103A	1195.00
• Interior Work Surfaces • LED Fog Lamps • 17" Silver Painted Aluminum Wheels • Chrome Bumpers • Electronic Rear Window Defroster • Rear Privacy Glass		
[X] TOW/HAUL PACKAGE	53T	785.00
• Available with 5.0L V8 and 3.5L V6 Eco Boost Only • Trailer Brake Controller • Locking Rear Axle		
[] Skid Plates 4x4 Only	413	160.00
[] Rear Window, Privacy Glass with Defroster	924	320.00
[] Black Platform Running Boards	18B	250.00
[] Daytime Running Lights	942	50.00
[] Engine Block Heater	41H	190.00
[X] Back up Alarm System	85H	220.00
[] Front License Plate Holder	153	N/C
[] Front and Rear Molded Splash Guards	DIO	150.00
[] Tailgate Step with Work Surface	63T	445.00
[] Spray in Bedliner	96W	595.00
[] Bed Liner – Plastic, Drop-in (NA w/ Cable Lock – 47S)	96P	350.00
[] Weatherguard Aluminum Crossbed Toolbox – Matte Black	90B	1000.00
[] Weatherguard Aluminum Crossbed Toolbox – Bright	90P	1000.00
[] Tonneau Pickup Box Cover – Soft Folding (Not available w/Toolbox)	96T	590.00
[] Tonneau Pickup Box Cover – Hard Folding (Not available w/Toolbox)	96X	1200.00
[] Tonneau Pickup Box Cover – Retractable (Not available w/Toolbox)	96J	2200.00
[] LED Warning Strokes – Amber	94S	650.00
[] LED Warning Strokes – Amber/White	94W	650.00
[X] (2) Extra Keys Integrated Remote	LUN	600.00

TOTAL \$46,427.00 ea

Colors & Trim Availability:

<u>Exterior</u>	<u>Interior</u> <u>(Med. Earth Grey)(AS)</u>	
Agate Black	(UM)	[]
Oxford White	(YZ)	[X]
Carbonized Gray	(M7)	[]
Antimatter Blue	(HX)	[]
Iconic Silver	(JS)	[]
Atlas Blue	(B3)	[]
SPECIAL PAINT		
Vermillion Red Add \$660.00	[E4]	[]
School Bus Yellow Add \$660.00	[B1]	[]
Omaha Orange Add \$660.00	[MB]	[]

**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD JULY 07, 2025**

14.

Meeting was called to order at 9:08 p.m. by Vice President Ptashnik. Present: Scott Morgan, Laura Toy, Rob Donovic, Carrie Budzinski, Lynda Scheel, and Vice President Ptashnik. Absent: Council President McCullough.

Elected and appointed officials present: Carter Fisher, City Attorney; Lori L. Miller, City Clerk; Mark Taormina, City Planner and Economic Development Director; Dave Lear, Assistant City Engineer.

Councilmember Toy led the meeting with the Pledge of Allegiance.

19. REQUEST FOR AUTHORIZATION TO PURCHASE AND UPFIT ONE FREIGHTLINER MT55 STEP VAN THROUGH THE SOURCEWELL PURCHASING CONSORTIUM: Department of Public Works, re: to replace the current front-line water repair truck, from budgeted funds.

Don Rohraff, Public Works Director, noted the purchase will not increase the fleet but instead replace an older vehicle.

Motion was made by Councilmember Scheel to put the matter on the Consent portion of the next Regular Agenda.

DIRECTION:

APPROVING

CONSENT



LETTER TO THE LIVONIA CITY COUNCIL

14.

DPW
July 8, 2025

MEETING DATE

S070725/R072125

PRESENTED BY

Douglas L. Moore, MSA, Assistant Director of Public Works

AGENDA ITEM

REQUEST FOR AUTHORIZATION TO PURCHASE AND UPFIT ONE FREIGHTLINER MT55 STEP VAN THROUGH THE SOURCEWELL PURCHASING CONSORTIUM: Department of Public Works, to replace the current front-line water repair truck, from budgeted funds.

BACKGROUND DETAILS

The Department of Public Works is requesting approval to purchase a new MT55 Step Van to be utilized as a water repair truck. The purchase will be made through the Sourcewell-awarded contract number 032834-DAI, through Wolverine Freightliner, 3000 William Ave., Ypsilanti, MI 48198 at a discounted price of \$291,693.00. Upfitting will be performed by Truck & Trailer Specialties, 900 Grand Oaks Dr., Howell, M 48843 for a total of \$198,270.00. The total cost for vehicle purchase and unfitting will be \$222,922.00. This truck will not increase our fleet size as it will replace an 11-year-old truck which will be sold at public auction.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

Approve the purchase of a new MT55 Step Van through the Sourcewell-awarded contract number 032834-DAI, awarded to Wolverine Freightliner, 3000 William Ave., Ypsilanti, MI 48198 at a discounted price of \$291,693.00. Also approve the upfitting through Truck & Trailer Specialties, 900 Grand Oaks Dr., Howell, M 48843 for a total of \$198,270.00. The total cost for vehicle purchase and unfitting will be \$222,922.00.

ATTACHMENTS

1. MT55 Step Van - W&S 2025

APPROVED BY

Don Rohraff, Director of Public Works

Date:

Connie Kumpula, Chief Accountant

Date:

Maureen Miller Brosnan, Mayor

Date:



LETTER TO THE LIVONIA CITY COUNCIL

14.

DPW
July 8, 2025

MEETING DATE

S070725/R072125

PRESENTED BY

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SPECIFIC NAME OF PRODUCT AND NUMBER TO BE PURCHASED (if more than one)

MT55 Utilimaster Walk-in Van; with upfitting

CONTRACT: Amount and/or purchase price and length of contract (with dates if applicable)

\$222,922.00

DETAILED WORK BEING PERFORMED

Purchase and unfitting of a 2025 Freightliner MT55 walk-in van to be unfitted as a water service truck.

FISCAL CONSIDERATIONS (Amount requested and Account(s) used. If applicable, Grant Funding information)

\$222,922.00
592-559-148-000

ACCEPTANCE OF BID (Please detail the following: Why accepted, why not lowest bidder, company name, contact person, full address)

n/a

REASON TO WAIVE BID PROCESS (Emergency, Professional services, No advantage to City and why, Consortium package, etc): Waive the formal bidding process in accordance with Section 3.04.140.E.4 of the Livonia Code of Ordinances, as amended, since no advantage to the City would result from competitive bidding.

ATTACHMENTS

1. MT55 Step Van - W&S 2025

APPROVED BY

_____	Date:
Don Rohraff, Director of Public Works	
_____	Date:
Connie Kumpula, Chief Accountant	
_____	Date:
Maureen Miller Brosnan, Mayor	

DEPARTMENT OF PUBLIC WORKS
PUBLIC SERVICE DIVISION
FLEET MAINTENANCE

GARY T. GARRISON
FLEET MANAGER



JAMES E. KIRBY
FLEET SUPERVISOR

13405 Surrey Street
Livonia, MI 48150-1527
(734) 466-2604
Fax: (734) 466-2662

May 28, 2025

Purchase of one 2026 Freightliner MT55 Utilimaster body truck

The water section of the DPW is seeking to purchase one new Freightliner Utilimaster body truck from Wolverine Freightliner 3000 William Ave. Ypsilanti Mi. 48198. If approved the truck will be purchased through Sourcewell Awarded Contract number 032824-DAI. This meets our financial ordinance for purchasing and provides us with a discount of \$24,652. The after-discount price is \$291,693

This truck will be equipped with a onboard air compressor and a generator as well as a workstation interior shelf and drawer storage to carry needed repair parts, this upfitting will be completed through Truck & Trailer Specialties, inc. 900 Grand Oaks Drive Howell mi. 48843 this truck will be used for repair or replacement of water mains for the city on a 24hr. basis as needed and will replace a current repair truck that is 11 years old.

Should you need more information or have questions please call me at ext. 2638

Jim Kirby

Fleet Supervisor

A handwritten signature in black ink that reads "Jim Kirby". The signature is written in a cursive style with a large, stylized "J" and "K".



3000 William Ave. • Ypsilanti, MI 48198 • (734) 879-2500 • Fax (734) 879-2516

4/17/25

Sourcewell Awarded Contract # 032824-DAI

Quote created for:

City of Livonia
13405 Surrey St
Livonia, MI 48150
Attn: Gary Garrison
ggarrison@livonia.gov
734-564-6592

Prepared by:

Wolverine Freightliner Westside
Steve Sexton
Municipal Sales Manager
517-902-2399
ssexton@wolverinetruckgroup.com

Member Account #58814
Member Name: City of Livonia

Daimler Contract # 032824-DAI

Purchase: 2026 Freightliner MT55 Chassis

- Includes Cummins B6.7, 240 HP Engine
- Includes Allison 2500 RDS Automatic Transmission
- 10,000 lb Front Axle
- 17,500 lb Rear Axle
- See Specifications for full details

Pre-Discount Price Includes Base Vehicle Plus Factory Options: \$ 112,053

Sourcewell Discount: \$ 24,652

Discounted Price to Customer: \$ 87,401

Items not subject to Daimler Discount:

- Warranty \$ 2,347
- Destination Charge \$ 1,085
- Misc. Factory Charges \$ 590
- **Speculative** Tariff Fee \$ 2,000
- Truck & Trailer Specialties Utilimaster Body Install
(see attachment for body details) \$ 198,270

Total of items not subject to Daimler Discount: \$ 204,270

Final Selling Price: \$ 291,693

Deduct \$6,000 from total price if the chassis is paid for within
60 days of arrival at Utilimaster. Total with chassis payment
discount applied: \$ 285,693

TRUCK & TRAILER *Specialties, Inc.*

900 Grand Oaks Drive | Howell, MI 48843 | www.ttspec.com | ph: (517) 552-3855 | fx: (517) 552-3666

April 14, 2025

City of Livonia

13405 Surrey Street, Livonia, MI 48150

Attn: Gary Garrison, ph: (734) 564-6592

Equipment to be purchased turnkey via Wolverine Freightliner, Steve Sexton

HQ0004366

Equipment Quotation

Chassis information:

2026 Freightliner MT55, Diesel, 190" WB, 27,500 GVWR, A/C prep, front bumper, aux fuel port & air suspension

Truck: #422

Install Utilimaster 18' Walk-In Step Van Body including the following:

Length: 216" I.D.

Height: 85" I.D.

Width: 93.5" I.D.

Special sidewalls

SW LH 18' x 85"H SL 190 HD 24" comp#42

.100 upper /.100 lower sidewall mtl

Cab Doors

Slider door LH standard

Slider door RH standard

Slider window LH silver

Slider window RH silver

4" lowered stepwell LH standard

4" lowered stepwell RH standard

LH intermediate step standard

Kason lock selections standard

Black finish standard

Key to lock standard

All bodies keyed differently

Door pockets standard

Rear Structure

Twin 20" rear swing doors

Pierce and roll construction

Hinges non-offset

Extra hinge

R38 holdback with 3" extension

Heavy duty release LH door

Slamlock hardware

Configured door

Special rear structures

RR Str 93.5 x 85 20" Swg W/ACC doors

Kason rear swing door hardware

Black finish

Key to lock

TRUCK & TRAILER *Specialties, Inc.*

900 Grand Oaks Drive | Howell, MI 48843 | www.ttspec.com | ph: (517) 552-3855 | fx: (517) 552-3666

Keyed to cab door

Seating

Drivers seat standard

Driver suspension seat magnum

Magnum 200 suspension driver seat

Black vinyl driver seat

Armrest (2) on driver seat

Magnum seat pedestal driver

3pt seatbelt w/2loc D-ring standard

Passenger seat

Passenger suspension seat magnum

Magnum 200 suspension pas seat

Black vinyl passenger seat

Armrest (2) on passenger seat

Magnum seat pedestal std location

3pt s/belt w/2loc D-ring RH

Bulkhead

Utility bulkhead w/center opening & door

Blandex core w/.030 alum skin

Kason latch

Black finish

Key to lock

Bulkhead seal kit

Driver Convenience Items

Single wiper motor system standard

Non-skid tape on cab floor risers standard

Safe-T-Tread in stepwell

Diesel sound reduction cowl standard

Radios

Radio/monitor combo

Monitor on in reverse only

Radio/monitor combo on RH dash

2 cab fans overhead shelf mount

Location 1 Mounted below shelf on left side

Location 2 Mounted below shelf on right side

Text: Wired key control on accessory side

Sunvisor driver side, padded 8 x 28

Sunvisor passenger side, padded 8 x 24

ABS cup holder LH dash mount standard

Extra stiffener on trans cover

Worktables, Trays & Storage

Aluminum engine cover standard

Overhead shelf center support

Cab worktable RH dash height LG

Dash & Interior Lighting

Cab dome light, 18" LED, dome light switch dash lighted

Ergo dash

12V power port (1) and (1) dual USB ports included standard with Ergo Dash

No single din radio in dash

Five (5) cargo dome lights, 18" LED

TRUCK & TRAILER *Specialties, Inc.*

900 Grand Oaks Drive | Howell, MI 48843 | www.ttspec.com | ph: (517) 552-3855 | fx: (517) 552-3666

Cargo light 3-way switch, standard location: RH rear sidewall 60" off floor, not > 4" from corner post

Roof

.032" smooth alum exterior standard

Special roofs

Roof ASY 18x93.5x85 std w/AC #42, 45

.024" embossed interior standard

Fiberglass insulation R4 standard

Vent 14" x 14" non-powered

Roof castings for mini markers

Cargo Floor

Rear threshold drains (2) standard

Standard body undercoating, undercoat outside the rails and not between

Fuel sending unit access standard

Treadplate full floor .100

Treadplate sl/sl 18' x 93.5" 190 dsl fa/44

Wheelwells 44"L w/41" aisle

Cargo floor planks max 8" standard

Non-slip coating center aisle, 14'-18'

Side & Rear Walls

Heavy-duty stud profile (hat style), 24" spacing

Round rubrail profile standard

.100 upper /.100 lower sidewall mtl standard

Sidewall liner options

Upfit installed liner

Notes: EZ Stak Package requires a backer for the PS pan shelf

5/8" plywood w/.060 Kemlite

Rear wall & door liner options

5/8" plywood w/.060 Kemlite

1-3/8" polystyrene insulation (R4)

Vent fresh air 4x10 quarter panel LH

Qtr panel harness bracket LH

Rear Bumper

Gripstrut fix-mounted bumper, 12"

Flip-down rear step bumper 30" W x 12" D, mounted at center

Exterior Body

Tinted windshield w/shade band standard

Bonded windshield glass

Exterior mirrors Rosco standard

West coast mirrors 7 x 16

Stainless steel mirror, round convex mirror 8.5", not heated

Rear fender flare rubber

Grab handles

Swing door int LH offset 20" open

Swing door int RH offset 20" open

70" dim from ground to cl of handles

Mud flaps rear

Extra lower rubrail

Fuel fill door & closer standard

Wheelwell cutout location

DEF tank fill door & closer

TRUCK & TRAILER *Specialties, Inc.*

900 Grand Oaks Drive | Howell, MI 48843 | www.ttspec.com | ph: (517) 552-3855 | fx: (517) 552-3666

RH DEF tank fill door & closer

Hood & Front Bumper

Rim liftup hood standard

Halogen headlights ATC rectangular

Seven tube grille insert

Extra hood hold-downs

Paint & Decals

Paint exterior one color, White

Sherwin Williams G2-4804482

Dupont N0006HN

Paint front bumper standard black standard

Paint rear bumper standard black standard

Delete Utilimaster logos

Exterior Lighting

Tail lights standard

4.5" LED standard, grommet-mounted LED STT & backups

LED clearance mini marker lights front & rear

Mini clearance lights in rear corners

LED front turn lights standard, black flange

LED license plate centered standard

Tail & back up lights in kickplate standard

Rear taillight wiring shield

HVAC

Cab AC w/electronic controls

Heater 40K BTU/Hour with "clean air technology"

Auxiliary cab heater 14,000 BTU, mount on floor rear of driver seat pedestal - air to feet

Electrical

Back up alarm "Preco" #230

Chassis Related Items

Front-end alignment (toe-in only)

Install chassis block htr plug

Install chassis supplied receipt box for block heater plug to the RH front bumper

Enclose battery box

Utility Truck Items

Onan 5KW diesel generator (CMQD) 120/240V

Generator control mounted in cab

Mounted driverside - forward of wheel, as close to ww as possible, compartment drop-thru stl

Upfit master models - complete layout

Utility truck exterior lighting

LED directional arrow stick, mounted at rear header

Amber LED mini strobes wired together, mounted at grille, front header, rear header, LH & RH sidewalls

Utility truck 120V accessories

50 AMP 120/240 service panel wo/sho, mounted above hose reels

Two (2) 120V 15 AMP exterior outlets GFI

Includes double receptacle in waterproof box with cover flush mounted on exterior of truck

GFI breaker is also included in service panel, located exterior sidewall rear passengerside & driverside above rub rail

Five (5) 120V 15 AMP interior outlets GFI

Location 1: passengerside over workbench - front

Location 2: passengerside over workbench - rear

TRUCK & TRAILER *Specialties, Inc.*

900 Grand Oaks Drive | Howell, MI 48843 | www.ttspec.com | ph: (517) 552-3855 | fx: (517) 552-3666

Location 3: passengerside EZ Stak cabinet (rear top opening box)

Location 4: passengerside EZ Stak cabinet (rear drop down box)

Location 5: above hose reels next to service panel

Utility truck 12V interior lighting includes two (2) Maxxima 5.9" LED workbench lights

Mounted under shelf over workbench – forward and under shelf over workbench – rear

Exterior adjustable ladder storage w/clamp, passengerside exterior of body

Designed for dimensions of ladder: 16" width of ladder, 12' length of ladder

Front double cone holder

Two (2) vise receiver 2" will be mounted on the LH or RH rear bumper (vise not included)

Location: one in the rear bumper – passengerside

Location: one on the workbench

Carbon monoxide & smoke detector

Additional Items

Webasto 40 diesel-fired air heater with SmarTemp in cargo area, switch in cab

Six (6) swivel hooks 8" locking, four (4) rear interior header mounted hooks, (2) loose

Boss PTO air/hydraulic system incl air shroud & louver, hydraulic reservoir, hydraulic, hose reels including:

3/4" x 50' air hose, 3/8" x 50' air hose & 35' hydraulic

EZ Stak interior package per City of Livonia design

Mat holder with D-ring - passengerside exterior of van

False wall ladder/stick storage

Six (6) Whelen Pioneer PFH1 LED exterior scene lights, (4) recessed on sides, (2) rear-facing, with 3-switch control in rear cargo area

Door rear access LH 16"W x 32"

Reel sidewall mount (1)

Boss 50-hour PTO maintenance kit

Onan generator maintenance kit

Above installed equipment and painted pricing: \$198,270.00 ea.

Payment Terms: Net 30. Pricing effective for 30 days.

FOB: City of Livonia

Delivery: 10-12 months ARO, body company leadtime is 7 months after chassis arrival

Thank you for the opportunity to quote.

Respectfully submitted by,
Jon Luea/Brian Bouwman

**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD JULY 07, 2025**

15.

Meeting was called to order at 9:08 p.m. by Vice President Ptashnik. Present: Scott Morgan, Laura Toy, Rob Donovic, Carrie Budzinski, Lynda Scheel, and Vice President Ptashnik. Absent: Council President McCullough.

Elected and appointed officials present: Carter Fisher, City Attorney; Lori L. Miller, City Clerk; Mark Taormina, City Planner and Economic Development Director; Dave Lear, Assistant City Engineer.

Councilmember Toy led the meeting with the Pledge of Allegiance.

20. REQUEST TO ACCEPT STORM WATER FACILITIES MAINTENANCE AGREEMENT:
Engineering Division, re: from Adams Park Development, LLC, in conjunction with the construction of a storm drain system that provides adequate for the Lyndon Park Site Condominium, in the Southeast 1/4 Section of 24.

David Lear, Assistant City Engineer, requested an acceptance to a storm water agreement just in case the developer does not keep up with maintenance.

Motion was made by Councilmember Morgan to put the matter on the Consent portion of the next Regular Agenda.

DIRECTION:

APPROVING

CONSENT



LETTER TO THE LIVONIA CITY COUNCIL

20.

Engineering
June 19, 2025

MEETING DATE

S070725/R072125

PRESENTED BY

David Lear, Assistant City Engineer

AGENDA ITEM

REQUEST TO ACCEPT STORM WATER FACILITIES MAINTENANCE AGREEMENT: Engineering Division, re: from Adams Park Development, LLC, in conjunction with the construction of a storm drain system that provides adequate drainage for the Lyndon Park Site Condominium, in the Southeast 1/4 Section of 24.

BACKGROUND DETAILS

In conjunction with the development of the property located on the south side of Lyndon Avenue, east of Harrison Road, the City of Livonia required the proprietor to construct a storm drainage system to provide adequate drainage for the site at their own expense. A representative of the City must also be designated to execute the County permit for this storm water system construction. In reference to this storm sewer system, the office has received the attached storm water maintenance agreement from the owner, Adams Park Development, LLC, 31300 Orchard Lake Road, Suite 200 Farmington Hills, Michigan 48334, requiring them to reimburse the City for any such maintenance that may become necessary.

The Engineering Division has approved the storm sewer plans and respectfully recommends that the City Council take the actions:

- Accept the Storm Water Management System (SWMS) for the Lyndon Park Site Condominium located on the south side of Lyndon Avenue, east of Harrison Road, in the S.E. ¼ of Section 24.
- Authorize the Mayor and the City Clerk to execute the Storm Water Facilities Maintenance Agreement on behalf of the City.
- Advise the Wayne County Department of Public Services (Permit Section) that the City of Livonia has approved the storm water collection system plans and further, that the City will accept jurisdiction and maintenance (at no cost to the County) of the storm water collection system within the Lyndon Park Site Condominium.
- Authorize the City Engineer to execute Wayne County Permit Number M-52919 on behalf of the City of Livonia in conjunction with the above storm water collection system.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to

be used in lieu of the recommendation)

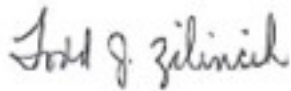
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- Authorize the Mayor and the City Clerk to execute the Storm Water Facilities Maintenance Agreement on behalf of the City.
- Advise the Wayne County Department of Public Services (Permit Section) that the City of Livonia has approved the storm water collection system plans and further, that the City will accept jurisdiction and maintenance (at no cost to the County) of the storm water collection system within the Lyndon Park Site Condominium.
- Authorize the City Engineer to execute Wayne County Permit Number M-52919 on behalf of the City of Livonia in conjunction with the above storm water collection system.

ATTACHMENTS

1. 6-18-25 Signed Storm Water Agreement - Lyndon Park
2. Signed M-52919 Wayne Co. Storm Water - Lyndon Park

APPROVED BY



Todd Zilincik, P.E., City Engineer

Date: June 19, 2025



Don Rohraff, Director of Public Works

Date: June 19, 2025



Carter Fisher, City Attorney

Date: June 20, 2025



Date: June 20, 2025

Maureen Miller Brosnan, Mayor

STORM WATER FACILITIES MAINTENANCE AGREEMENT

THIS AGREEMENT is made this 18 day of JUNE, 2025, by and between the City of Livonia, a Michigan municipal corporation, with principal offices located at 33000 Civic Center Drive, Livonia, Michigan 48154, hereafter "City" and

Adams Park Development, LLC

a Michigan limited liability company with principal offices located at 31300 Orchard Lake Road, Suite 200, Farmington Hills, Michigan 48334 hereafter "Proprietor".

RECITALS

1. The Proprietor is developing certain property located in the City of Livonia, Wayne County, Michigan, as Lyndon Park Site Condominium ("Development"), as more particularly described in Exhibit "A" attached hereto.
2. The Proprietor must construct a storm drainage system to provide adequate drainage in the proposed Development.
3. Such storm drainage system will encompass or impact storm runoff from the Development.
4. The City has received permit no. M-52919 ("Permit") issued by the County of Wayne, Michigan, a public body corporate ("County") authorizing the construction, operations and maintenance of the storm drainage system which is located within the Development and/or the City of Livonia's, the Wayne County Office of Public Services' and/or the Michigan State Highway Department's right-of-way and/or drain, on or adjacent to the Development described in the Permit as Exhibit "C" attached hereto and incorporated herein by reference, as long as the City assumes jurisdiction for the operation and maintenance of the storm drainage system referred to in the Permit.
5. The Permit signed by the City will benefit the Proprietor and the proposed Development.
6. The City and Proprietor desire to transfer certain responsibilities of the City under the Wayne County Permit to the Proprietor and its successors and confirm the terms and conditions of such transfer of responsibility by this agreement between the City and Proprietor.

NOW, THEREFORE, for and in consideration of the mutual covenants and benefits to be derived hereunder, the receipt, adequacy and sufficiency of which is hereby acknowledged, the City and the Proprietor agree as follows:

1. The Proprietor, its successors and assigns, shall assume the obligations of the City under the Permit, as follows:

- a. The Proprietors agree they will maintain, at their own expense, the storm drainage system which is located within the Development and/or the City of Livonia's, Wayne County Office of Public Services' and/or the Michigan State Highway Department's right-of-way and/or drain, and on or adjacent to the Development described in the Permit as Exhibit "C" attached hereto and incorporated herein by reference. The City may enter upon said premises for the purposes of maintaining said storm drainage system, if the Proprietor fails to do so. In which event the owners agree to pay the City all charges and expenses incurred thereon.
 - b. In the event of any failure or settlement in the road right-of-way, resulting from the said storm drainage system, the City shall take immediate steps to correct the situation so that the public health, safety and welfare shall not be endangered nor the road improvement damaged. All expenses, including engineering will be remitted by the Proprietors to the City.
 - c. If it is found necessary to adjust or relocate all or any portion of said storm drainage system within the road right-of-way, the City shall cause such adjustment or relocation to be accomplished, and all expenses, including engineering, will be remitted by the Proprietors to the City. Prior to any work being performed in a County road right-of-way, a separate permit shall be secured from the Wayne County Office of Public Services.
 - d. To pay the City upon written request any costs and expenses apportioned to the City under the County Permit.
2. Notwithstanding the Proprietor's assumption of the liabilities of Paragraph 1 hereof, the City shall retain jurisdiction over the storm drainage system and its rights and remedies under the Permit and any applicable statute, ordinance, rule or regulation are hereby preserved. Without limitation of the foregoing, Proprietor, its successors and assigns, at its sole cost and expense shall perform maintenance of the storm water facilities described in the City of Livonia's Storm Water Management and Long-Term Maintenance Plan as Exhibit "B" attached hereto and incorporated herein by reference.
3. The Proprietor, its agents, representatives, successors and assigns shall defend, indemnify and hold the City harmless from and against any claims, demands, actions, damages, injuries, costs or expenses of any nature whatsoever, hereinafter "Claims", fixed or contingent, known or unknown, arising out of or in any way connected with the design, construction, use, maintenance, repair or operation (or omission in such regard) of the storm drainage system referred to in the permit as Exhibit "C" hereto, appurtenances, connections and attachments thereto which are the subject of this Agreement. This indemnity and hold harmless shall include any costs, expenses and attorney fees incurred by the City in connection with such Claims or the enforcement of this Agreement.

4. In accordance with 1976 PA 453, the parties hereto covenant: (1) not to discriminate against any employee or applicant for employment with respect to hire, tenure, terms, conditions or privileges of employment, or a matter directly or indirectly related to employment, or a matter directly or indirectly related to employment because of race, color, religion, national origin, sex, age, height, weight or marital status.
5. That this Agreement shall be recorded at the Proprietor's expense with the Wayne County Register of Deeds.

IN WITNESS WHEREOF, the Proprietor and City have executed this Agreement on the day and year first above written.

Adams Park Development, LLC
a Michigan limited liability company

By: Windmill Adams Park LLC
a Michigan limited liability company
Its: Manager

By: MM LLC
a Michigan limited liability company
Its: Manager

By: 
Stuart L. Michaelson
Its: Manager

STATE OF MICHIGAN)
) ss.
COUNTY OF WAYNE)

The foregoing instrument was acknowledged before me on this 18th day of June, 2025, a Notary Public and for said County, appeared Stuart L. Michaelson to me being personally known, who being sworn, did for himself say that he is the Manager MM LLC, a Michigan limited liability company, which is the Manager of Windmill Adams Park LLC, a Michigan limited liability company, which is the Manager of Adams Park Development LLC, the Michigan limited liability company, named in and which executed the within instrument and that said instrument was signed on behalf of said limited liability company, and acknowledged said instrument to be the free act and deed of said limited liability company.


Notary Public

CALCAD County, Michigan
My Commission Expires On: 6-17-2027

CITY OF LIVONIA
a municipal corporation

By: _____
Maureen Miller Brosnan

Its: Mayor

By: _____
Lori L. Miller

Its: City Clerk

STATE OF MICHIGAN)
) ss.
COUNTY OF WAYNE)

On this _____ day of _____, 20_____, before me, a Notary Public in and for said County, appeared Maureen Miller Brosnan and Lori L. Miller to me personally known, who, being sworn, did for themselves say that they are respectively the Mayor and the City Clerk of the City of Livonia, the municipal corporation named in and which executed the within instrument and acknowledged said instrument the free act and deed of said municipal corporation.

Notary Public

_____ County, Michigan
My Commission Expires On:

INSTRUMENT DRAFTED BY:
Todd J. Zilincik, P.E.
City Engineer
City of Livonia
12973 Farmington Road
Livonia, MI 48150

WHEN RECORDED RETURN TO:
City of Livonia
33000 Civic Center Drive
Livonia, MI 48154
Attn: City Clerk



Warren C. Evans
Wayne County Executive

March 01, 2023

Mr. Todd Zilincik, P.E.
City of Livonia - Engineering
12973 Farmington Road
Livonia, MI 48150

RE: Maintenance of Storm Water Management
Maintenance Permit for Lyndon Park Residential Site Condominium

Dear Mr. Zilincik:

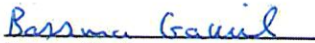
Enclosed are the Storm Water Maintenance Permit **M-52919** and Exhibits A & B.

Please sign and date the enclosed maintenance permit and request Council to pass a Resolution as required by the Wayne County Storm Water Ordinance.

http://www.waynecounty.com/doe_wqm_res_stormwm_standards.htm

Please return complete packet to Wayne County Permit Office. An executed copy of this permit with exhibits will be returned to your attention.

Sincerely,


Bassma Gawil
Plan Review Engineer

DEPARTMENT OF PUBLIC SERVICES / ENGINEERING DIVISION/ PERMIT OFFICE
33809 MICHIGAN AVENUE, WAYNE, MI 48184 ■ PHONE (734) 858-2774 ■ FAX (734) 595-6356

PERMIT OFFICE 33809 MICHIGAN AVE WAYNE, MI 48184, PHONE (734) 595-6504 FAX (734) 595-6356
72 HOURS BEFORE ANY CONSTRUCTION. CALL
FOR INSPECTION



WAYNE COUNTY
DEPARTMENT OF PUBLIC SERVICES
PERMIT TO CONSTRUCT, OPERATE, USE AND/OR MAINTAIN

PERMIT No. M-52919	
ISSUE DATE 3/1/2023	EXPIRES
REVIEW No. R 21-069	WORK ORDER

PROJECT NAME MAINTENANCE PERMIT FOR LYNDON PARK RESIDENTIAL SITE CONDOMINIUM	
LOCATION LYNDON AVENUE (BETWEEN INKSTER ROAD & MIDDLEBELT ROAD)	CITY/TWP LIVONIA
PERMIT HOLDER CITY OF LIVONIA 12973 FARMINGTON ROAD LIVONIA, MI 481504202	CONTRACTOR
CONTACT TODD ZILINCIK (734) 466-2571	CONTACT
DESCRIPTION OF PERMITTED ACTIVITY (72 HOURS BEFORE YOU DIG, CALL MISS DIG 1-800-482-7161, www.missdig.org)	

PERMIT TO MAINTAIN THE STORM WATER MANAGEMENT SYSTEM IN ACCORDANCE WITH THE DRAWING ATTACHED AS EXHIBIT "A", THE TERMS OF THE LONG-TERM MAINTENANCE PLAN ATTACHED AS EXHIBIT "B" AND THE WAYNE COUNTY STORM WATER ORDINANCE AND ADMINISTRATIVE RULES. A RESOLUTION FROM THE LOCAL MUNICIPALITY TO MAINTAIN THE PROPOSED STORM WATER MANAGEMENT SYSTEM AND ITS FACILITIES IS REQUIRED.

THE CITY OF LIVONIA SHALL ASSUME JURISDICTION OVER AND ACCEPT RESPONSIBILITY FOR MAINTENANCE OF THE STORM WATER MANAGEMENT SYSTEM(S) TO ENSURE THAT THE STORM WATER MANAGEMENT SYSTEM FUNCTIONS PROPERLY AS DESIGNED AND CONSTRUCTED. THE PERMIT HOLDER'S RESPONSIBILITIES UNDER THIS PERMIT SHALL INCLUDE, WITHOUT LIMITATIONS, (A) ANY MONITORING AND PREVENTIVE MAINTENANCE ACTIVITIES SET FORTH IN THE PLAN; (B) ANY AND ALL REMEDIAL ACTIONS NECESSARY TO REPAIR, MODIFY OR RECONSTRUCT THE SYSTEM AND (C) OTHER ACTIVITIES OR RESPONSIBILITIES FOR MAINTENANCE OF THE STORM WATER MANAGEMENT SYSTEM AS MAY BE SET FORTH IN THE ORDINANCE, ADMINISTRATIVE RULES, THE PLAN OR THIS PERMIT.

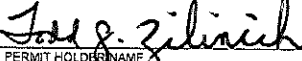
THE CITY OF LIVONIA SHALL PERFORM ALL MONITORING, MAINTENANCE, REMEDIAL AND OTHER RESPONSIBILITIES REQUIRED BY THE WAYNE COUNTY ORDINANCE, ADMINISTRATIVE RULES, THE PLAN AND THIS PERMIT, IN PERPETUITY AND AT ITS SOLE COST EXPENSE.

THE CITY OF LIVONIA SHALL PREPARE, EXECUTE AND (IF NECESSARY) RECORD ANY AND ALL AGREEMENTS, CONTRACTS AND OTHER DOCUMENTS THAT MAY BE REQUIRED TO PERFORM ITS OBLIGATIONS HEREUNDER AND ENSURE MAINTENANCE OF THE STORM WATER MANAGEMENT SYSTEM IN PERPETUITY.

IF WAYNE COUNTY FINDS IT NECESSARY TO ADJUST OR RELOCATE ALL OR ANY PORTION OF THE PERMITTED STORM WATER MANAGEMENT SYSTEM, THE PERMIT HOLDER SHALL CAUSE THIS ADJUSTMENT OR RELOCATION TO BE ACCOMPLISHED AT NO EXPENSE TO THE COUNTY. PRIOR TO ANY WORK BEING PERFORMED IN THE RIGHT-OF-WAY, A PERMIT SHALL BE SECURED FROM THE WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES PERMIT OFFICE.

APPROVED PLANS PREPARED BY ADAMS PARK DEVELOPMENT, LLC	REQUIRED ATTACHMENTS EXHIBIT A: MAP DEPICTING PHYSICAL LIMITS OF STORM WATER MGT SYSTEM EXHIBIT 'B': LONG TERM MAINTENANCE PLAN EXHIBIT 'C': BINDING AGREEMENT (COMMUNITY RESOLUTION)
PLANS APPROVED BY Yako, A.	(PERMIT VALID ONLY IF ACCOMPANIED BY ABOVE ATTACHMENTS)

In consideration of the Permit Holder and Contractor agreeing to abide and conform with all the terms and conditions herein, a Permit is hereby issued to the above named to Construct, Operate, Use and/or Maintain within the Road Right of Way, County Easement, and/or County Property. The permitted work described above shall be accomplished in accordance with the Approved Plans, Maps, Specifications and Statements filed with the Permit Office which are integral to and made part of this Permit. The General Conditions as well as any Required Attachments are incorporated as part of this Permit.


PERMIT HOLDER NAME
PERMIT HOLDER / AUTHORIZED AGENT

6/19/2025
DATE

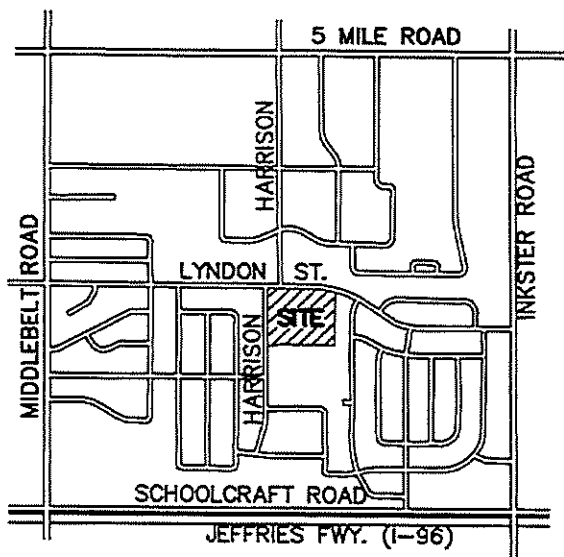
WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES
PREPARED BY

VALIDATED BY
PERMIT COORDINATOR

DATE

EXHIBIT A

PHYSICAL LIMITS OF STORMWATER MANAGEMENT SYSTEM



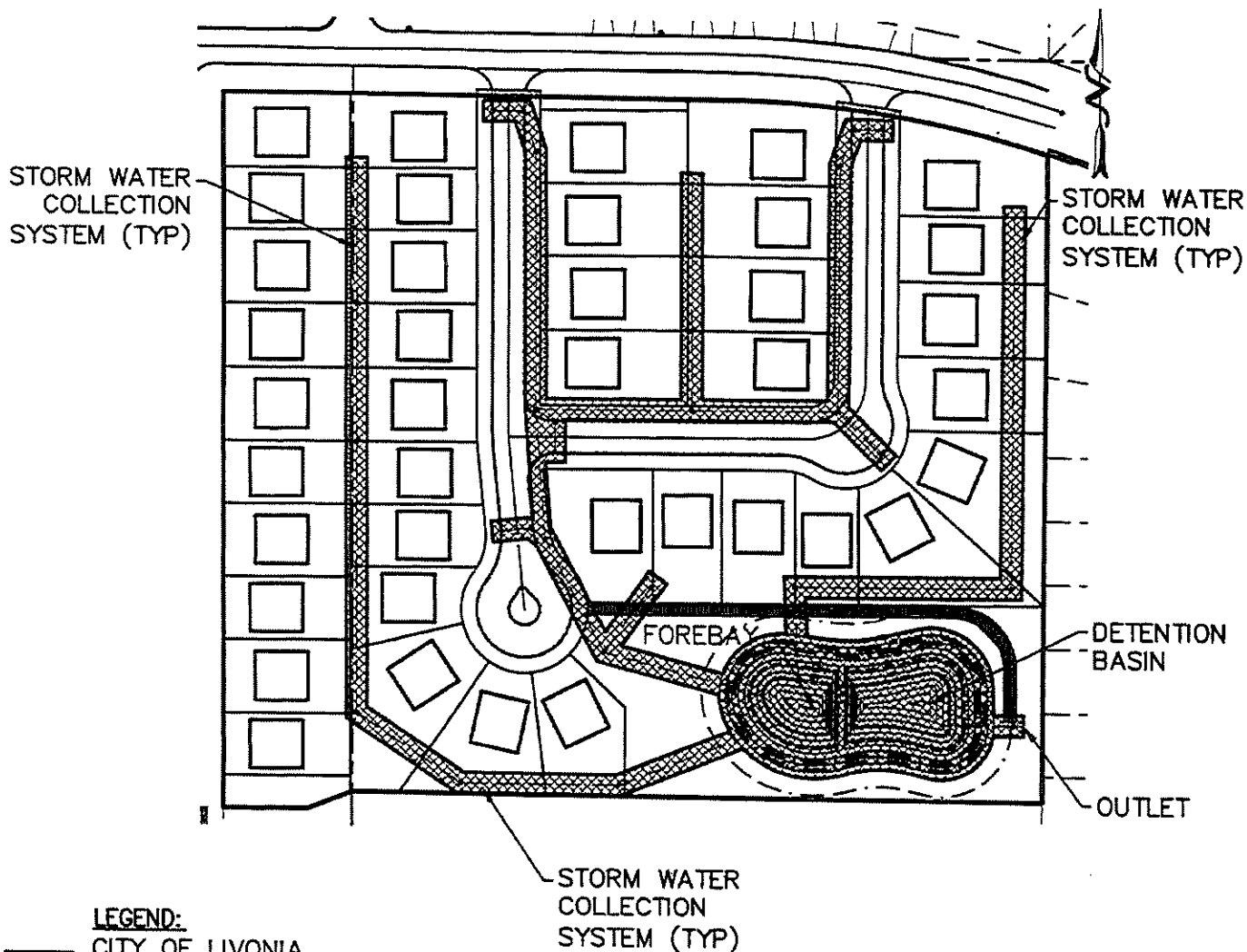
VICINITY MAP

LEGAL DESCRIPTION:

AS SURVEYED DESCRIPTION:

PART OF THE SOUTH 1/2 OF SECTION 24, TOWN 1 SOUTH, RANGE 9 EAST, CITY OF LIVONIA, WAYNE COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS:

COMMENCING AT THE CENTER 1/4 CORNER OF SAID SECTION 24 AS RECORDED IN L.C.R.C. L. 47230, P. 445-446 W.C.R.; THENCE ALONG THE EAST-WEST 1/4 LINE OF SECTION 24, S89°28'13"E 659.96 FEET TO THE WEST LINE OF BUCKINGHAM VILLAGE SUBDIVISION AS RECORDED IN L. 77, P. 66-67 OF PLATS, W.C.R.; THENCE ALONG SAID LINE S00°21'49"W 706.78 FEET; THENCE N89°39'14"W 655.34 FEET; THENCE S68°32'10"W 43.63 FEET; THENCE S89°52'25"W 80.85 FEET TO THE EAST LINE OF HARRISON AVENUE, 86 FEET WIDE, ALSO THE EAST LINE OF COMPTON VILLAGE SUB'N AS RECORDED IN L. 85, P. 31-32 OF PLATS, W.C.R.; THENCE ALONG SAID LINE N00°07'35"W 725.99 FEET TO THE EAST-WEST 1/4 LINE OF SECTION 24; THENCE ALONG SAID LINE S89°33'41"E 122.94 FEET TO THE POINT OF BEGINNING. CONTAINING 12.7141 ACRES.



LEGEND:

 CITY OF LIVONIA
STORM MAINTENANCE
RESPONSIBILITY

TAX ID#:

46-095-99-0011-000
46-096-99-0004-000

MLP
AND ASSOCIATES, INC.

LIVONIA, MICHIGAN 48187
PHONE (734) 459-8560
FAX (734) 459-2565

PROPERTY INFORMATION

LYNDON PARK
LYNDON AVENUE
LIVONIA, MI

PROPERTY OWNER

ADAMS PARK DEVELOPMENT, LLC
ATTN: MR. STUART MICHAELSON
31333 W. 13 MILE ROAD, SUITE 200
FARMINGTON HILLS, MI 48334

DATE: 03-26-2021

SCALE: 1" = 160'

SURVEY NO.: 2020.14

EXHIBIT B

STORMWATER MANAGEMENT SYSTEM LONG-TERM MAINTENANCE PLAN

WAYNE COUNTY DPS PERMIT NO:
WAYNE COUNTY DPS PLAN REVIEW NO:

A. PHYSICAL LIMITS OF STORM WATER MANAGEMENT SYSTEM

THE STORM WATER MANAGEMENT SYSTEM (SWMS) SUBJECT TO THIS LONG TERM MAINTENANCE PLAN IS DEPICTED ON EXHIBIT A TO THE PERMIT AND INCLUDES WITHOUT LIMITATION THE STORM SEWERS, MANHOLES, CATCH BASINS, STORM WATER INLETS, STORM DETENTION SYSTEM, OUTLET STRUCTURES, PUMP STATION, BUFFER ZONE, AND OUTLET PIPES THAT CONVEY FLOW FROM THE DETENTION BASIN TO AN EXISTING UNDERGROUND STORM SEWER SYSTEM. FOR PURPOSE OF THIS PLAN, THIS STORM WATER MANAGEMENT SYSTEM AND ALL OF ITS COMPONENTS AS SHOWN ON EXHIBIT A IS REFERRED TO AS THE "LYNDON PARK SWMS".

B. TIME FRAME FOR LONG TERM MAINTENANCE RESPONSIBILITY

ADAMS PARK DEVELOPMENT, LLC IS RESPONSIBLE FOR MAINTAINING LYNDON PARK SWMS, INCLUDING COMPLYING WITH APPLICABLE REQUIREMENTS OF THE LOCAL OR WAYNE COUNTY SOIL EROSION AND SEDIMENTATION CONTROL PROGRAM, UNTIL WAYNE COUNTY RELEASES THE CONSTRUCTION PERMIT. LONG TERM MAINTENANCE RESPONSIBILITY FOR LYNDON PARK SWMS COMMENCES WHEN DEFINED BY THE MAINTENANCE PERMIT ISSUED BY WAYNE COUNTY. LONG TERM MAINTENANCE CONTINUES IN PERPETUITY.

C. MANNER OF ENSURING MAINTENANCE RESPONSIBILITY

THE CITY OF LIVONIA HAS ASSUMED RESPONSIBILITY FOR LONG TERM MAINTENANCE OF LYNDON PARK SWMS. THE RESOLUTION BY WHICH THE CITY OF LIVONIA HAS ASSUMED MAINTENANCE RESPONSIBILITY IS ATTACHED TO THE PERMIT AS EXHIBIT C. ADAMS PARK DEVELOPMENT, LLC THROUGH A MAINTENANCE AGREEMENT WITH THE CITY OF LIVONIA HAS AGREED TO PERFORM THE NECESSARY ACTIVITIES REQUIRED BY THIS PLAN, THE CITY OF LIVONIA RETAINS THE RIGHT TO ENTER THE PROPERTY AND PERFORM THE NECESSARY MAINTENANCE OF LYNDON PARK SWMS IF ADAMS PARK DEVELOPMENT, LLC FAILS TO PERFORM THE REQUIRED MAINTENANCE ACTIVITIES. TO ENSURE THAT LYNDON PARK SWMS IS MAINTAINED IN PERPETUITY, THE MAP OF THE PHYSICAL LIMITS OF THE STORM WATER MANAGEMENT SYSTEM (EXHIBIT A), THIS PLAN (EXHIBIT B), THE RESOLUTION ATTACHED (AS EXHIBIT C) AND THE MAINTENANCE AGREEMENT BETWEEN THE CITY OF LIVONIA AND THE PROPERTY OWNER SHALL BE RECORDED WITH THE WAYNE COUNTY REGISTER OF DEEDS. UPON RECORDING, A COPY OF THE RECORDED DOCUMENT WILL BE PROVIDED TO THE COUNTY.

D. LONG TERM MAINTENANCE PLAN AND SCHEDULE

TABLE 1 IDENTIFIES THE MAINTENANCE ACTIVITIES TO BE PERFORMED, ORGANIZED BY CATEGORY (MONITORING/INSPECTIONS, PREVENTATIVE MAINTENANCE, AND REMEDIAL ACTIONS). TABLE 1 ALSO IDENTIFIES SITE SPECIFIC WORK NEEDED TO ENSURE THAT THE STORM WATER MANAGEMENT SYSTEM FUNCTIONS PROPERLY AS DESIGNED. WHILE PERFORMING MAINTENANCE, CHEMICALS SHOULD NOT BE APPLIED TO THE FOREBAY, OPEN DETENTION BASIN, WATERCOURSES OR ANYWHERE IN THE 25 FOOT BUFFER ZONE AROUND THE SURFACE WATERS AND ALONG WATERCOURSES.

TAX ID#:

46-095-99-0011-000
46-096-99-0004-000

MLP
AND ASSOCIATES, INC.

40655 KOPPERNICK ROAD
LIVONIA, MICHIGAN 48187
PHONE (734) 459-8580
FAX (734) 459-2585

PROPERTY INFORMATION

LYNDON PARK
LYNDON AVENUE
LIVONIA, MI

PROPERTY OWNER

ADAMS PARK DEVELOPMENT, LLC
ATTN: MR. STUART MICHAELSON
31333 W. 13 MILE ROAD, SUITE 200
FARMINGTON HILLS, MI 48334

EXHIBIT B (CONT.)

LONG-TERM MAINTENANCE SCHEDULE

SYSTEM COMPONENT												
	CATCH BASINS, INLETS & STORM STRUCTURES	CHANNELS AND SWALES	BASIN INLETS, OUTLETS & GRATINGS	FOREBAY	STORM DETENTION SYSTEM	FLOW RESTRICTORS, OVERFLOW STRUCS & OUTLET PIPES	EMERGENCY SPILLWAYS	SPILLWAY	RIP-RAP	BUFFER STRIP	PAVED AREAS	
MAINTENANCE ACTIVITIES												FREQUENCY
MONITORING/INSPECTION												
* INSPECT FOR SEDIMENT ACCUMULATION** CLOGGING OF STONE FILTER.	X	X		X	X	X						ANNUALLY
* INSPECT FOR FLOATABLES, DEAD VEGETATION AND DEBRIS.		X		X	X	X	X	X		X		ANNUALLY AND AFTER MAJOR EVENTS
* INSPECT FOR EROSION & INTEGRITY OF BANKS AND BERMS.		X	X	X	X		X	X	X	X		ANNUALLY AND AFTER MAJOR EVENTS
* INSPECT ALL COMPONENTS DURING WET WEATHER & COMPARED TO AB PLANS.	X	X	X	X	X	X	X	X	X	X		ANNUALLY
* MONITOR PLANTINGS/VEGETATION.		X		X	X					X		TWICE PER YEAR
* ENSURE MEANS OF ACCESS FOR MAINTENANCE REMAINS CLEAR/OPEN.	X	X	X	X	X	X	X	X	X	X		ANNUALLY
PREVENTATIVE MAINTENANCE												
* MOWING.		X			X	X				X		UP TO TWICE PER YEAR*
* REMOVE ACCUMULATED SEDIMENT.	X	X		X	X	X						AS NEEDED**
* REMOVE FLOATABLES, DEAD VEGETATION AND DEBRIS	X	X	X	X	X	X	X	X	X	X		AS NEEDED
* REPLACE OR WASH/REUSE STONE RISER FILTERS.				X	X	X	X	X				EVERY 3 YEARS; MORE FREQUENT AS NEEDED**
* REMOVE INVASIVE PLANT SPECIES.		X		X	X					X		ANNUALLY
* SWEEPING OF PAVED SURFACES (STREETS AND PARKING LOTS).											X	TWICE PER YEAR
PREVENTATIVE MAINTENANCE												
* REPAIR/STABILIZE AREAS OF EROSION.		X	X	X	X	X	X	X	X	X		AS NEEDED
* REPLACE DEAD PLANTINGS, BUSHES AND TREES.		X		X	X					X		AS NEEDED
* RESEED BARE AREAS.		X		X	X					X		AS NEEDED
* STRUCTURAL REPAIRS.	X		X		X	X	X	X	X			AS NEEDED
* MAKE ADJUSTMENTS/REPAIRS TO ENSURE PROPER FUNCTIONING.	X	X	X	X	X	X	X	X	X	X		AS NEEDED

- * NOT TO EXCEED THE LENGTH ALLOWED BY LOCAL COMMUNITY ORDINANCE.
- ** FOREBAY AND DETENTION BASIN TO BE CLEANED WHENEVER SEDIMENTS ACCUMULATE TO A DEPTH OF 6"-12" OR WHEN SEDIMENT RESUSPENSION IS OBSERVED.
- * REPLACE OR WASH/REUSE STONE RISER FILTERS. REPLACE IF THEY CANNOT BE ADEQUATELY CLEANED.
- * RESEED BANKS NEAR INLET/OUTLET AND STABILIZE ERODED BANKS AS NECESSARY.
- * ADD GRASSES SUCH AS SEDGES AND RUSHES.
- * ADD CATTAILS (AS NECESSARY).
- * ADD WETLAND/FLOWERING PLANTS ALONG AND AROUND ABOUT 50% OF THE PERIMETER.
- * ADD TREES AND BRUSHES TO BANKS (SOUTH AND WEST SIDE FOR SHADE AS NECESSARY).

TAX ID#:
46-095-99-0011-000
46-096-99-0004-000

MLP
AND ASSOCIATES, INC.

40655 KOPPERNICK ROAD
LIVONIA, MICHIGAN 48187
PHONE (734) 459-8560
FAX (734) 459-2585

PROPERTY INFORMATION

LYNDON PARK
LYNDON AVENUE
LIVONIA, MI

PROPERTY OWNER

ADAMS PARK DEVELOPMENT, LLC
ATTN: MR. STUART MICHAELSON
31333 W. 13 MILE ROAD, SUITE 200
FARMINGTON HILLS, MI 48334

DATE: 03-26-2021

SCALE: NA

SHEET: 2 OF 2

SURVEY NO.: 2020.14

From: [Taormina, Mark](#)
To: [Kasprowicz, Sara](#)
Subject: FW: 27819 PLYMOUTH
Date: Thursday, June 26, 2025 10:27:42 AM
Attachments: [image006.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)
[image010.png](#)
[image011.png](#)
[27819 PLYMOUTH FLOOR PLAN A1.0.pdf](#)
[27819 PLYMOUTH ELEVATIONS A2.0.pdf](#)
[27819 PLYMOUTH SITE PLAN A3.0.pdf](#)

Sara,

New data related to Petition 2025-01-02-01, Eman Enterprises, is attached and should be placed on the next available Council Regular agenda.

Thanks,

Mark

Mark Taormina

Planning and Economic Development Director
City of Livonia | Planning Department
(734) 466-2292
mtaormina@livonia.gov

From: Yahana DC <info@yahanadc.com>
Sent: Tuesday, June 24, 2025 9:55 PM
To: Taormina, Mark <mtaormina@livonia.gov>
Cc: moessa1 <moessa1@yahoo.com>
Subject: Re: 27819 PLYMOUTH

Hi Mark,

Thanks for the quick response.

I have amended the drawings per your comments below...In regards to comment 1, the window sills for all windows will sit at 3'0" above ground, so I believe the building will be much more aesthetically pleasing when the stone terminates at the window sill at 3'0" as well. With this combination of materials it has become pretty 'standard practice' for the two materials to meet at the same height as the window sill.

All other comments have been accounted for.

I am hoping the building owner can now schedule his city council meeting for this upcoming opening in July.

Kind regards,

NADER TADROS

www.yahanadc.com

info@yahanadc.com

(313)917-4929



From: Taormina, Mark <mtaormina@livonia.gov>

Sent: Friday, June 20, 2025 3:05 PM

To: Yahana DC <info@yahanadc.com>

Cc: moessa1 <moessa1@yahoo.com>

Subject: RE: 27819 PLYMOUTH

Nate,

You should consider the following changes, consistent with the direction of the Council and Planning Commission:

1. The amount of EIFS should be minimized. We recommend increasing the amount of stone or brick to about 2/3rd of the height of the facades.
2. The wall pack lights should not be angled. Consider adding lights to get proper light coverage.
3. Specify only pine or spruce trees, minimum 6 feet in height, when planting.
4. Evergreen trees should be added along the south property line adjacent to the new vinyl fence and the east side of the parking area behind the building (where the site plan shows the 37' dimension).
5. Plant only two deciduous trees along the side street (e.g., oak, ginkgo, or linden).
6. The maximum spacing between the evergreen trees on the parking area's south, east, and west sides should be 15 feet on center.
7. The note should be corrected to indicate that only operable vehicles will be left out overnight.

Mark

Mark Taormina

Planning and Economic Development Director

City of Livonia | Planning Department

(734) 466-2292

mtaormina@livonia.gov

www.livonia.gov

From: Yahana DC <info@yahanadc.com>
Sent: Friday, June 20, 2025 12:23 PM
To: Taormina, Mark <mtaormina@livonia.gov>
Cc: moessa1 <moessa1@yahoo.com>
Subject: Re: 27819 PLYMOUTH

Good Afternoon Mark,

Sorry for the delay on getting back to you, I have been out of town...I have discussed and finalized the drawings with my client, please see attached. When is a good time to discuss. We'd like to clear my client to schedule a city council meeting for the next upcoming meeting.

Kind regards,

NADER TADROS
www.yahanadc.com
info@yahanadc.com
(313)917-4929



From: Taormina, Mark <mtaormina@livonia.gov>
Sent: Thursday, May 1, 2025 4:23 PM
To: Yahana DC <info@yahanadc.com>
Subject: RE: 27819 PLYMOUTH

The Wine Palace, 13971 Middlebelt Road, just north of Schoolcraft Road, across from the ALDI grocery store.

Mark Taormina
Planning and Economic Development Director
City of Livonia | Planning Department
(734) 466-2292
mtaormina@livonia.gov
www.livonia.gov

From: Yahana DC <info@yahanadc.com>
Sent: Thursday, May 1, 2025 4:21 PM
To: Taormina, Mark <mtaormina@livonia.gov>
Subject: Re: 27819 PLYMOUTH

Thanks Mark. Can you provide the address for where this was installed. We'd like to check it out. Thanks

Get [Outlook for iOS](#)

From: Taormina, Mark <mtaormina@livonia.gov>

Sent: Thursday, May 1, 2025 4:04:25 PM

To: Yahana DC <info@yahanadc.com>

Subject: RE: 27819 PLYMOUTH

Nate,

The company is called Ambrico. Here's a link to the product specifications and installation manual: <https://www.ambrico.com/specification/>

Mark



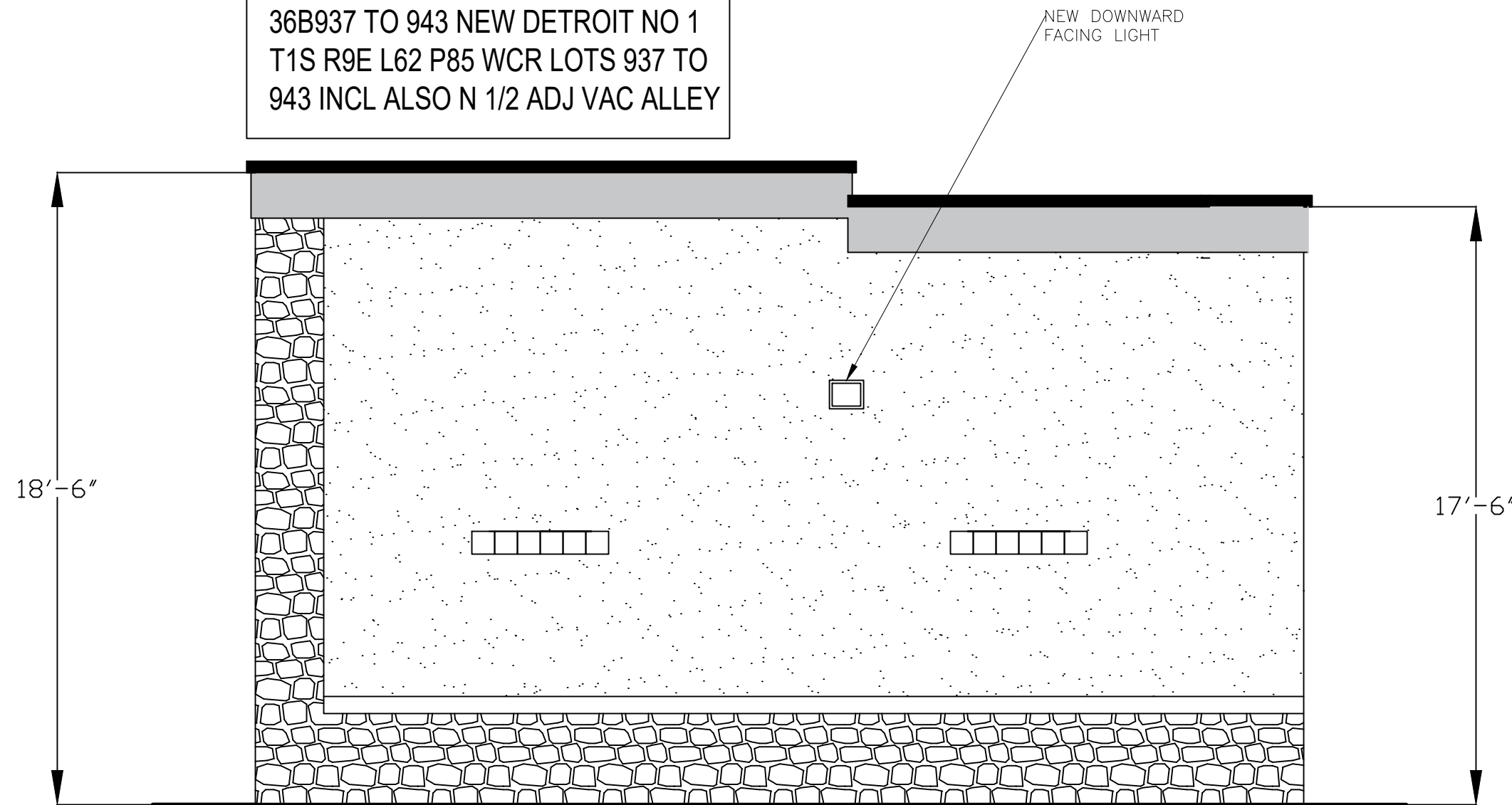
Mark Taormina
Planning and Economic Development Director
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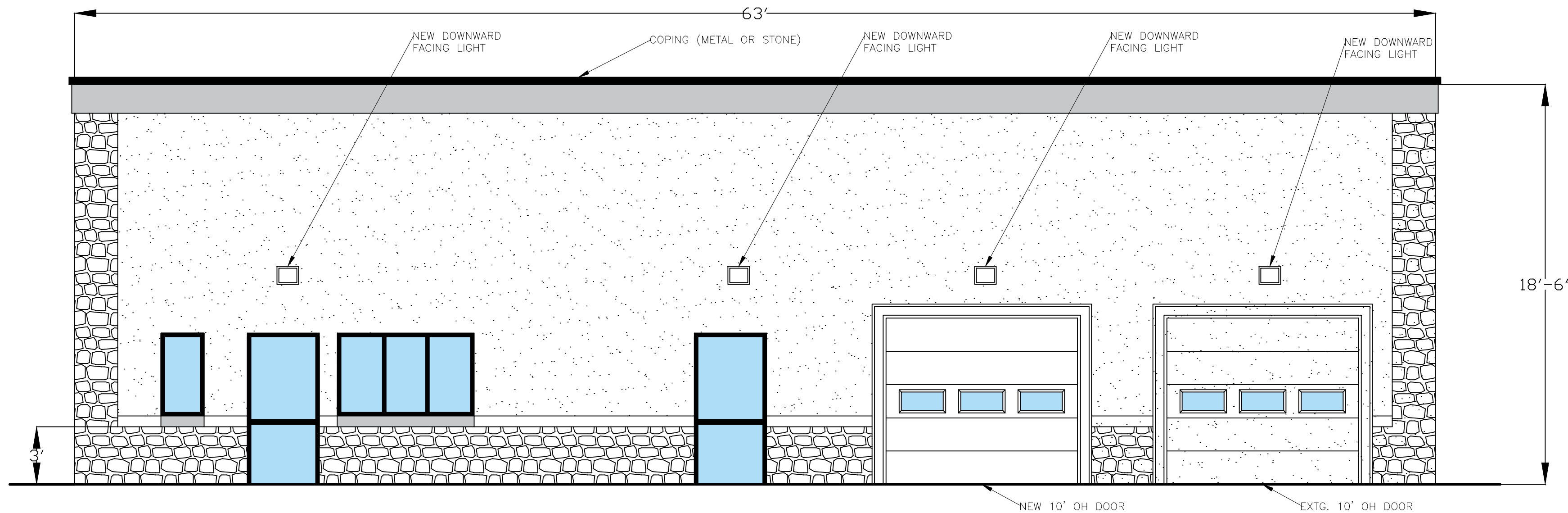
This message is intended only for the use of the individual or entity to which it is addressed, and may contain information that is privileged, confidential, and/or exempt from disclosure under applicable laws. If the reader of the message is not the intended recipient, or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and/or reply to this e-mail message. Thank you.

PROPERTY LEGAL DESCRIPTION

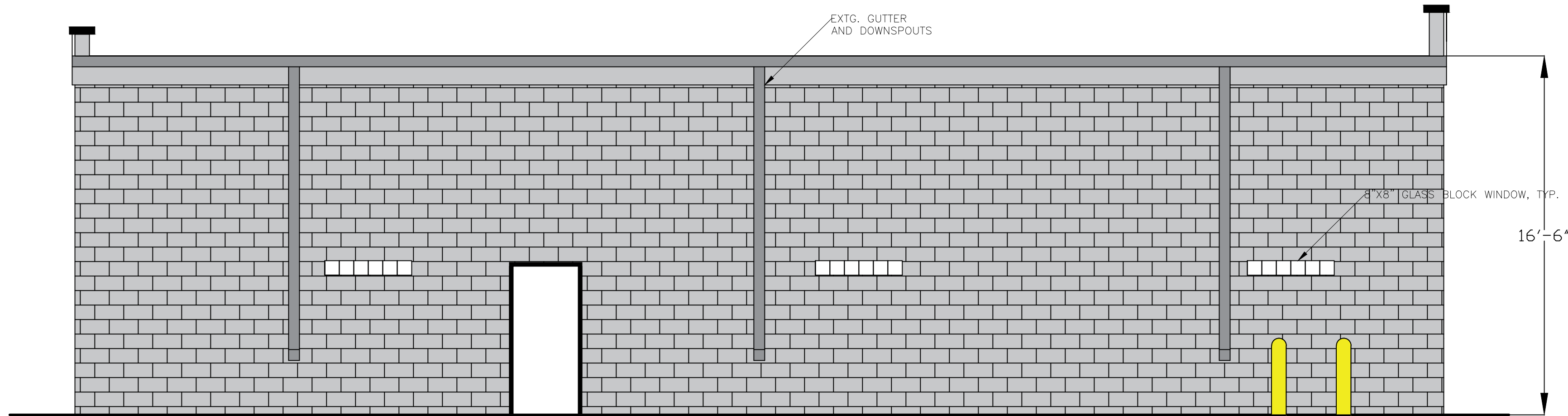
36B937 TO 943 NEW DETROIT NO 1
T1S R9E L62 P85 WCR LOTS 937 TO
943 INCL ALSO N 1/2 ADJ VAC ALLEY



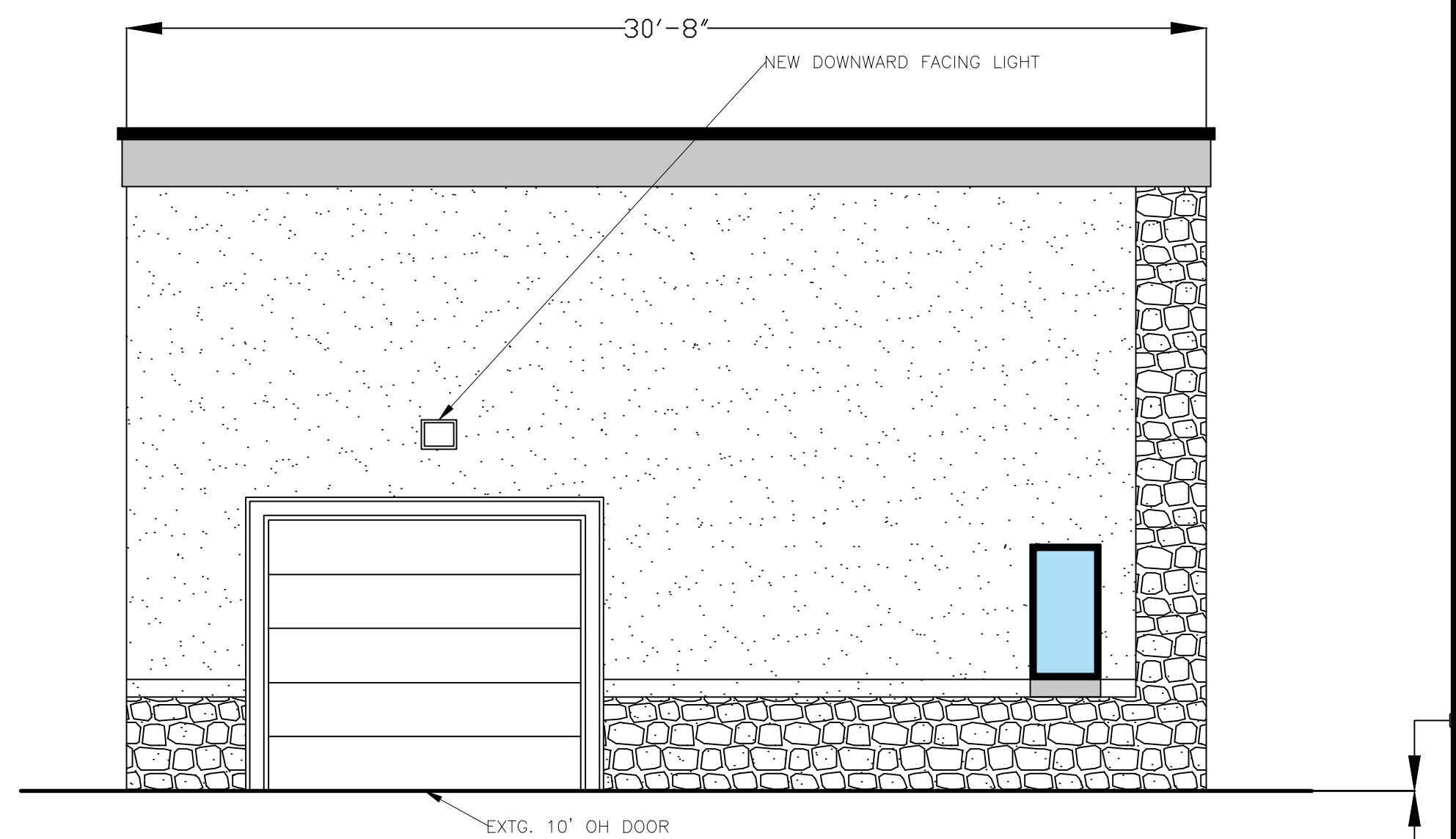
1 WEST ELEVATION SKETCH
1/4" = 1'0"



2 NORTH ELEVATION SKETCH
1/4" = 1'0"



3 SOUTH ELEVATION SKETCH
1/4" = 1'0"



4 EAST ELEVATION SKETCH
1/4" = 1'0"

SCOPE OF WORK PROVIDED BY OWNER

DEMOLITION & PREPARATION:

- REMOVE EXISTING STUCCO, EIFS, OR OTHER VENEERS ON NORTH, EAST, AND WEST ELEVATIONS.
- REMOVE ALL EXISTING CANOPIES, ALUMINUM FASCIA, AND ASSOCIATED FRAMING.
- CLEAN AND PREPARE ALL WALL SURFACES TO RECEIVE NEW CLADDING SYSTEMS.
- PROTECT EXISTING DOORS, WINDOWS, AND LINTELS TO REMAIN IN PLACE THROUGHOUT WORK.

STONE VENEER INSTALLATION (NORTH, EAST, WEST ELEVATIONS):

- INSTALL WEATHER-RESISTIVE BARRIER (WRB) OVER PREPARED SURFACE PER MANUFACTURER REQUIREMENTS.
- FASTEN METAL LATH SECURELY TO STRUCTURE IN COMPLIANCE WITH CODE AND STONE SYSTEM SPECIFICATIONS.
- APPLY SCRATCH COAT FOLLOWED BY STONE VENEER FROM GRADE UP TO BOTTOM OF WINDOW SILL.
- USE CORNER PIECES TO MAINTAIN NATURAL STONE APPEARANCE AROUND COLUMNS OR EDGES.
- FINISH WITH CLEAN, CONSISTENT MORTAR JOINTS PER MANUFACTURER'S INSTALLATION STANDARDS.

EIFS INSTALLATION (NORTH, EAST, WEST ELEVATIONS):

- INSTALL RIGID FOAM INSULATION BOARD ABOVE STONE TO PARAPET HEIGHT USING APPROVED ADHESIVE AND MECHANICAL FASTENERS.
- EMBED FIBERGLASS MESH INTO BASE COAT AND ALLOW TO CURE AS SPECIFIED.
- APPLY FINISH COAT WITH OWNER-APPROVED COLOR AND TEXTURE TO MATCH REFERENCE BUILDING.
- INCORPORATE CONTROL AND EXPANSION JOINTS AS NEEDED TO COMPLY WITH EIFS SYSTEM DESIGN.

SCOPE OF WORK PROVIDED BY OWNER

SOUTH ELEVATION:

- PATCH AND REPAIR EXISTING CMU/BLOCK WALLS TO A SMOOTH, SOUND SURFACE.
- APPLY EXTERIOR-GRADE MASONRY PAINT TO ENTIRE SOUTH FACADE TO MATCH EIFS COLOR ON OTHER SIDES.

TRIM, DOORS, AND OPENINGS (ALL ELEVATIONS):

- RETAIN ALL EXISTING WINDOWS AND DOORS UNLESS OTHERWISE NOTED.
- INSTALL NEW STOREFRONT ENTRY DOOR AND OVERHEAD DOORS PER DRAWINGS.
- INSTALL NEW METAL OR PVC TRIM AND FLASHING AT DOORS, WINDOWS, AND MATERIAL TRANSITIONS TO ENSURE WATERTIGHT SEALS.

PARAPET AND COPING:

- INSTALL NEW COPING CORWON MOLDING AT ALL ELEVATION PARAPETS PER REFERENCE BUILDING.
- ENSURE PROPER SLOPE AND OVERHANG TO DIRECT WATER AWAY FROM BUILDING FACADE.

LIGHTING AND FINAL FINISHES:

- INSTALL NEW ARCHITECTURAL WALL-MOUNTED LIGHT FIXTURES WHERE SHOWN ON PLANS.
- COORDINATE WITH ELECTRICAL CONTRACTOR FOR ROUGH-IN AND CONNECTION OF ALL FIXTURES.
- FINAL FINISHES AND SEALANTS TO BE INSTALLED PER MANUFACTURER SPECIFICATIONS.

GENERAL NOTES:

- ALL MATERIALS AND INSTALLATION METHODS TO FOLLOW MANUFACTURER GUIDELINES AND LOCAL BUILDING CODES.
- ALL FINISH COLORS AND TEXTURES TO MATCH OWNER-PROVIDED REFERENCE IMAGE.
- CONTRACTOR TO VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO START OF WORK.

The new façade shall match the existing building shown in the provided reference photo. All exterior materials and finishes must be consistent with the original, including the same type and color of stone, EIFS texture and finish, crown molding profile, coping type, and any other visible architectural details. The same installer who completed the original building shall be used to ensure uniformity in quality and appearance.



General Notes

NOT FOR CONSTRUCTION

ALL EXISTING CONDITIONS AND DIMENSIONS SUBJECT TO FURTHER VERIFICATION IN FIELD BY ANY FUTURE ARCHITECT, ENGINEER AND/OR CONTRACTOR

DESIGN PROVIDED BY OWNER

CONTRACTOR/OWNER IS SOLELY RESPONSIBLE TO COMPLY WITH ALL LOCAL BUILDING CODES, REGULATIONS & STANDARDS, ZONING ORDINANCES AND ADA COMPLIANCE

1	SKETCH	6/19/2025
No.	Revision/Issue	Date

Firm Name and Address

YAHANA DESIGN & CONSULTING
DEARBORN HEIGHTS, MI

Project Name and Address

27819 PLYMOUTH,
LIVONIA, MI 48150

Project

Date
6/19/2025

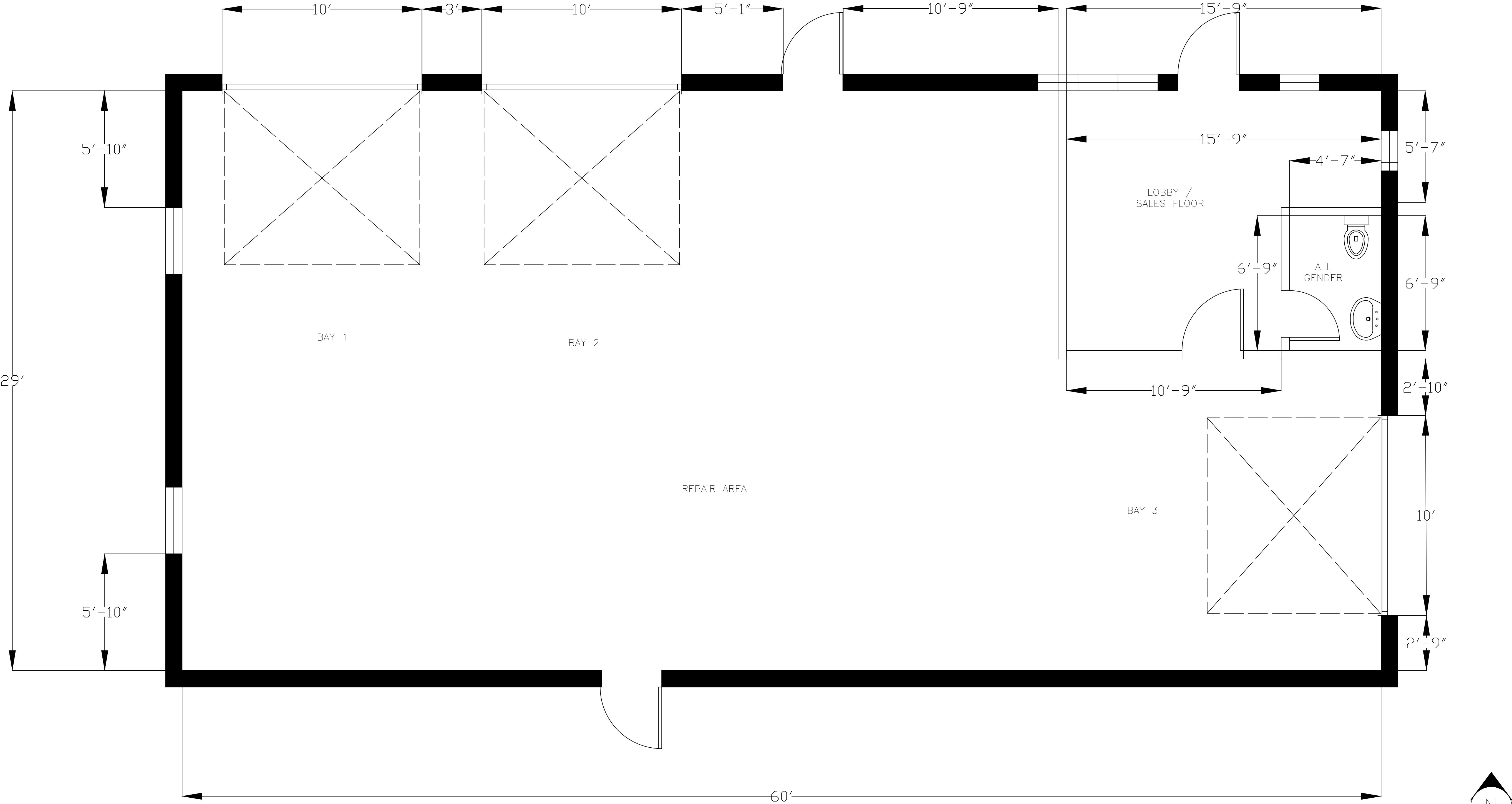
Scale
1/4" = 1'0"

Sheet

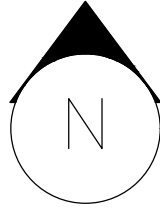
A2.0

PROPERTY LEGAL DESCRIPTION

36B937 TO 943 NEW DETROIT NO 1
T1S R9E L62 P85 WCR LOTS 937 TO
943 INCL ALSO N 1/2 ADJ VAC ALLEY



1 EXISTING LAYOUT SKETCH
3/8" = 1'0"



General Notes

NOT FOR CONSTRUCTION

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DESIGN PROVIDED BY OWNER

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1	SKETCH	6/19/2025
No.	Revision/Issue	Date

Firm Name and Address

YAHANA DESIGN & CONSULTING
DEARBORN HEIGHTS, MI

Project Name and Address

27819 PLYMOUTH,
LIVONIA, MI 48150

Project	Sheet
Date 6/16/2025	A1.0
Scale 3/8" = 1'0"	

PROPERTY LEGAL DESCRIPTION

36B937 TO 943 NEW DETROIT NO 1
T1S R9E L62 P85 WCR LOTS 937 TO
943 INCL ALSO N 1/2 ADJ VAC ALLEY

SHRUBS SPECIES TO BE
1 OF THE FOLLOWING 3
OPTIONS (WHATEVER IS
AVAILABLE AT THE TIME
OF PURCHASE):

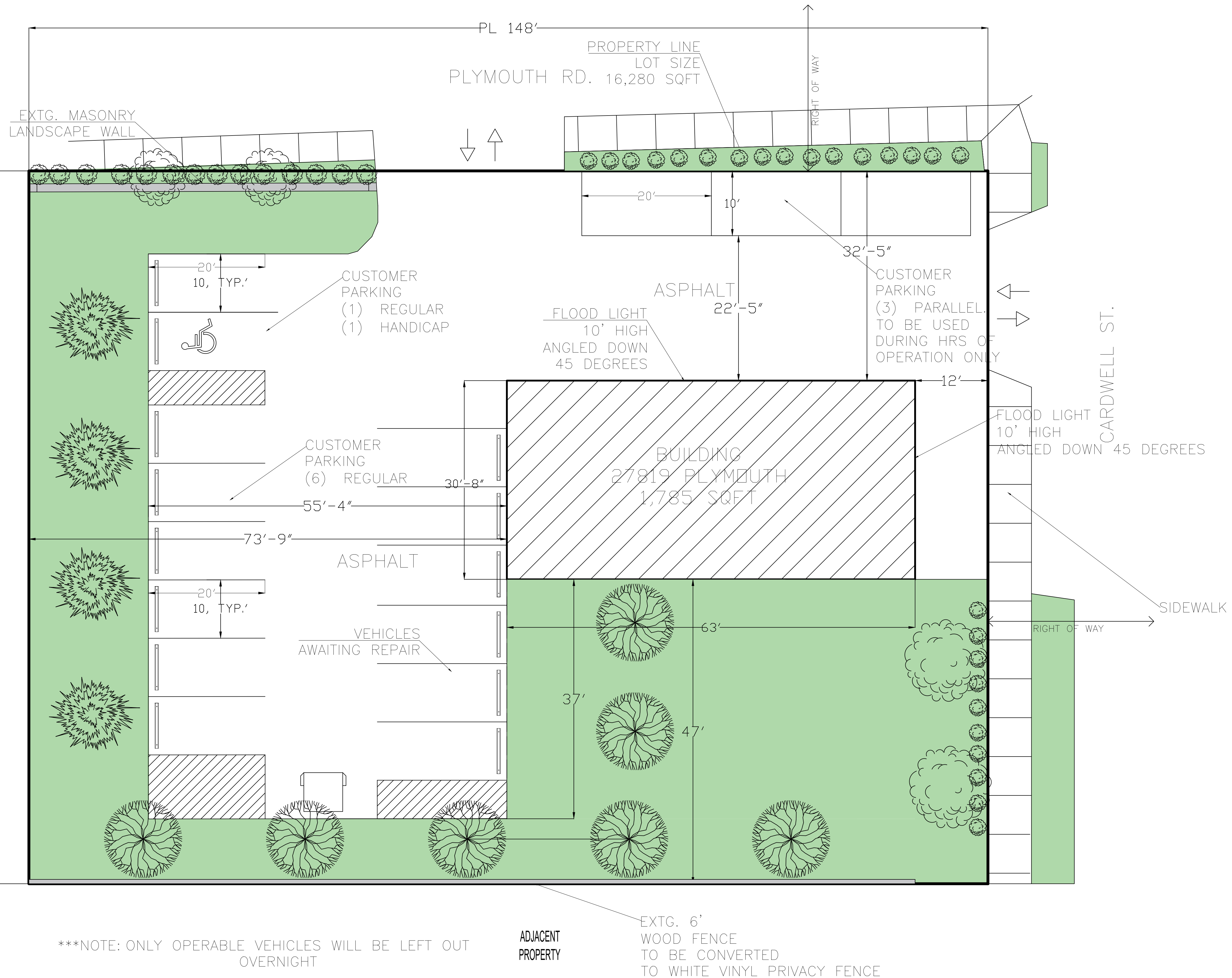
1. BLACK-EYED SUSAN
2. DAYLIGHT
3. CONEFLOWER

DECIDUOUS TREE (OAK,
GINKGO OR LINDEN) TO
BE 6 FEET IN HEIGHT AT
TIME OF PLANTING

EVERGREEN TREE
(NORWAY SPRUCE) TO BE
6 FEET IN HEIGHT AT
TIME OF PLANTING.
PLANTED AT 15 FEET
O.C.

EVERGREEN TREE
(EMERALD GREEN
EVERGREENS) TO BE 6
FEET IN HEIGHT AT TIME
OF PLANTING. PLANTED
AT 15 FEET O.C.

ADJACENT
PROPERTY



General Notes

NOT FOR CONSTRUCTION

ALL EXISTING CONDITIONS AND
DIMENSIONS
SUBJECT TO FURTHER VERIFICATION
IN FIELD BY ANY FUTURE
ARCHITECT, ENGINEER AND/OR
CONTRACTOR

DESIGN PROVIDED BY OWNER

CONTRACTOR/OWNER IS SOLELY
RESPONSIBLE TO COMPLY WITH ALL
LOCAL BUILDING CODES,
REGULATIONS & STANDARDS, ZONING
ORDINANCES AND ADA COMPLIANCE

(10) TOTAL PARKING SPACES
INCLUDING (1) HANDICAP BASED ON
AT LEAST 2 SPACES PER 100 DOOR
BAY PLUS (1) FOR EACH EMPLOYEE

4,200 SQFT OF LANDSCAPING
PROVIDED, > 25% OF TOTAL SITE

1	SKETCH	6/19/25
No.	Revision/Issue	Date

Firm Name and Address

YAHANA DESIGN & CONSULTING
DEARBORN HEIGHTS, MI

Project Name and Address

27819 PLYMOUTH,
LIVONIA, MI 48150

Project	Sheet
Date 6/19/2025	A3.0
Scale 1/8" = 1'0"	

Regular Meeting Minutes of May 07, 2025

President McCullough announced that Item #22 be tabled at the request of the petitioner.

#133-25 RESOLVED, that having considered an application from Malgorzata Simmons, dated March 31, 2025, requesting permission to close Melrose Street between Elsie Street and Jamison Avenue, on Saturday, August 16, 2025, from 2:00 p.m. to 7:00 p.m., for the purpose of conducting a block party, the Council does hereby grant permission as requested, including therein

COMMITTEE OF THE WHOLE MEETING
APRIL 28, 2025
6:00PM

A Committee of the Whole meeting was held on April 28, 2025, in the Council Chambers at Livonia City Hall.

Committee Members Present: Brandon McCullough, Council President and Chair
Martha Ptashnik, Council Vice President
Carrie Budzinski
Rob Gjonaj Donovic

Committee Members Absent: Scott Morgan
Lynda L. Scheel
Laura M. Toy

City Officials Present: Carter Fisher, City Attorney
Mark Taormina, Planning and Econ. Development Director

Additional attendees: None

1. The subject matter of Petition 2025-01-02-01 submitted by Eman Enterprises LLC, requesting waiver use approval to redevelop an existing commercial site, including adding service bays, renovating the interior and exterior of the building and operating an automobile repair facility at 27819 Plymouth Road, located on the southwest corner of Plymouth and Cardwell Street in the Northeast ¼ of Section 34. (CR 74-25)

The Committee meeting commenced at 6:04PM.

Council President Brandon McCullough introduced the item.

Councilmember Donovic offered an approving motion, with the stipulation to include brick, screening and landscaping.

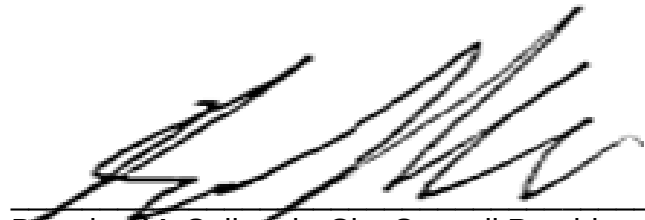
The Committee recommends:

The Law Department draft an approving resolution with the above-mentioned additions.

The Committee meeting adjourned at 6:30PM.

Note: This item will be out of Committee.

This item is to be placed on the **Regular Meeting Agenda of May 7, 2025**


Brandon McCullough, City Council President



LETTER TO THE LIVONIA CITY COUNCIL

1.

Planning
April 23, 2025

MEETING DATE

COW042825/R050725

PRESENTED BY

Mark Taormina, Planning and Economic Development Director

AGENDA ITEM

The subject matter of Petition 2025-01-02-01 submitted by Eman Enterprises LLC, requesting waiver use approval to redevelop an existing commercial site, including adding service bays, renovating the interior and exterior of the building and operating an automobile repair facility at 27819 Plymouth Road, located on the southwest corner of Plymouth and Cardwell Street in the Northeast ¼ of Section 34.

BACKGROUND DETAILS

At the Regular Meeting Minutes of March 10, 2025:

On a motion by Councilmember Donovic, supported by Councilmember Scheel, it was:
#74-25 RESOLVED, that having considered a communication from the City Planning Commission, dated February 10, 2025, approved for submission by the Mayor, which transmits its resolution #02-03-2025, adopted on February 4, 2025, with regard to Petition 2025-01-02-01 submitted by Eman Enterprises LLC, requesting waiver use approval to redevelop an existing commercial site, including adding service bays, renovating the interior and exterior of the building and operating an automobile repair facility at 27819 Plymouth Road, located on the southwest corner of Plymouth and Cardwell Street in the Northeast ¼ of Section 36, the council does hereby refer this item to the Committee of the Whole for its report and recommendation.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

To discuss the subject matter as presented.

ATTACHMENTS

1. R031025 Petition 2025-01-02-01 Eman Enterprises 74-25
2. S022425 Petition 2025-01-02-01 Eman Enterprises Minutes
3. S022425 Petition 2025-01-02-01 New Data Recd 2-21-25
4. S022425 LTC Pet 2025-01-02-01, Eman Enterprises
5. 2025-01-02-01_E-COUNCIL Pkt

APPROVED BY

Regular Meeting Minutes of March 10, 2025

On a motion by Councilmember Donovic, supported by Councilmember Scheel, it was:

#74-25 RESOLVED, that having considered a communication from the City Planning Commission, dated February 10, 2025, approved for submission by the Mayor, which transmits its resolution #02-03-2025, adopted on February 4, 2025, with regard to Petition 2025-01-02-01 submitted by Eman Enterprises LLC, requesting waiver use approval to redevelop an existing commercial site, including adding service bays, renovating the interior and exterior of the building and operating an automobile repair facility at 27819 Plymouth Road, located on the southwest corner of Plymouth and Cardwell Street in the Northeast ¼ of Section 36, the council does hereby refer this item to the Committee of the Whole for its report and recommendation.

<i>CONSENT AGENDA ITEM 2 (Regular Meeting of March 10, 2025)</i>
--

Motion:	Donovic
Second:	Scheel
Ayes:	Toy, Donovic, Ptashnik, Budzinski, Scheel, Morgan and McCullough
Nays:	None
Absent:	None

**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD FEBRUARY 24, 2025**

Meeting was called to order at 8:46 p.m. by Council Vice President Ptashnik. Present: Rob Donovic, Carrie Budzinski, Lynda Scheel, Scott Morgan, Laura Toy, and Vice President Ptashnik. Absent: President McCullough.

Elected and appointed officials present: Carter Fisher, City Attorney; Mark Taormina, City Planner and Economic Development Director; and Lori L. Miller, City Clerk.

Councilmember Donovic led the meeting with the Pledge of Allegiance.

3. WAIVER PETITION: Planning Commission, re: Petition 2025-01-02-01 submitted by Eman Enterprises LLC, requesting waiver use approval to redevelop an existing commercial site, including adding service bays, renovating the interior and exterior of the building and operating an automobile repair facility at 27819 Plymouth Road, located on the southwest corner of Plymouth and Cardwell Street in the Northeast $\frac{1}{4}$ of Section 34.

Mark Taormina, City Planning and Economic Development Director, presented the waiver petition to the Council. Mr. Taormina stated the request is to renovate the former Mickey Schore Electronics building on Plymouth Road for use as a vehicle repair facility. Mr. Taormina indicated the building is roughly 2,000 sq. feet in size with two driveways, one off Plymouth Road and the second from Cardwell. Mr. Taormina stated the plans shows three work bays that will operate with three employees, with the minimum amount of parking outlined for the employees. The dumpster as shown on the plans is situated in the northwest corner of the building, but there is no definitive landscaping plan with the species. Mr. Taormina stated the fence on the site plan will require approval by the Zoning Board of Appeals. The thin brick material as shown on the architectural plans will need to be looked at, and the Inspection Department will need to be involved. Mr. Taormina stated the parking lot lighting shown is not what is recommended and there are outstanding taxes owed on the property, but not sure if that has been resolved. The approving resolution submitted by the Planning Commission does address all the issues raised.

Mohamed Essan, 27819 Plymouth Road, was present to answer questions. Mr. Essan indicated he wanted to open the business for auto repair and has had previous repair shops in the past. Mr. Essan indicated the building is in bad shape and there are three overhead doors that exist on the property, but they have been covered, and the below ground hoists at the location will be removed and he plans to install above-ground hoists for vehicles.

Councilmember Donovic inquired about the existing fencing on the property and Mr. Taormina stated it would need to be replaced with the appropriate fencing and necessary landscaping. Councilmember Donovic stated he would like to work with the petitioner to make sure the property is cleaned up and no longer an eye soar. He inquired if the Petitioner would be amenable to continue the use of brick veneer on the west side of the building and Mr. Essan agreed.

Councilmember Budzinski inquired if the delinquent taxes for the property had been paid and Mr. Essan responded as far as he knew. Councilmember Budzinski expressed shared concerns expressed by Councilmember Donovic as far as how it will look for a major thoroughfare they are trying to improve and asked various

questions about how work will be done on the property and what the daily operations involve.

Susan Nash, City Treasurer, confirmed there are no outstanding taxes owed on the subject property.

Mr. Essan outlined the various features of the site plan as submitted, including the enclosure of the back part of the property, so no vehicles would be viewable from the roadway. Mr. Essan stated all vehicles to be worked on would either be inside the building or behind the brick wall at the back of the property.

Councilmember Toy inquired about the petitioner's experience in this type of industry and inquired if the dumpster enclosure could be moved to the back of the property, stating a large dumpster right along the Plymouth Road roadway would not be pleasant to see.

Following Council questions and discussion, it was determined the matter is not resolved completely, there are additional concerns for the property and the petitioner needed to provide more detailed answers and updated plans to see if the requested matters could be resolved to meet the requirements of the Planning Commission, Building Department, and applicable Ordinances and the views shared by the Council.

DIRECTION:

COW

CONSENT

From: [Uhazie, Jacob](#)
To: [Kasprowicz, Sara](#)
Subject: New Data for Petition 2025-01-02-01
Date: Friday, February 21, 2025 11:07:49 AM
Attachments: [2025-01-02-01_Set of Plans \(2025-02-21\).pdf](#)

Sara,

We received a revised site plan for petition 2025-01-02-01 at 27819 Plymouth. Please see attached to add to the Council Information.

Thank you

Jacob Uhazie

Assistant Planning Director
City of Livonia | Planning Department
(734) 466-2293 | (734) 674-7647
juhazie@livonia.gov

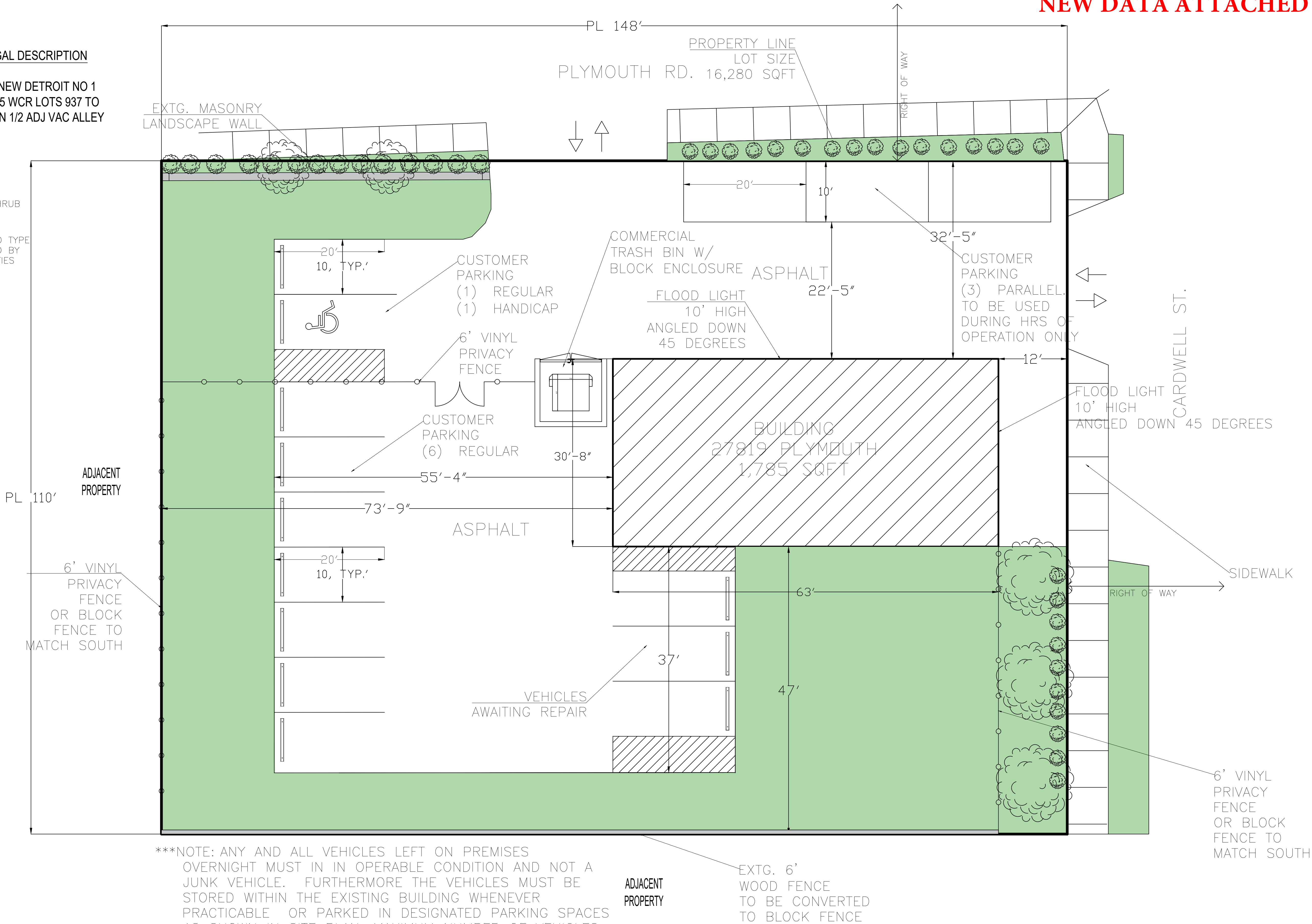
PLANNING COMMISSION
NEW DATA ATTACHED

PROPERTY LEGAL DESCRIPTION

36B937 TO 943 NEW DETROIT NO 1
T1S R9E L62 P85 WCR LOTS 937 TO
943 INCL ALSO N 1/2 ADJ VAC ALLEY



TREE, SPECIES AND TYPE
TO BE APPROVED BY
LOCAL AUTHORITIES



***NOTE: ANY AND ALL VEHICLES LEFT ON PREMISES
OVERNIGHT MUST IN IN OPERABLE CONDITION AND NOT A
JUNK VEHICLE. FURTHERMORE THE VEHICLES MUST BE
STORED WITHIN THE EXISTING BUILDING WHENEVER
PRACTICABLE OR PARKED IN DESIGNATED PARKING SPACES
AS SHOWN IN SITE PLAN. MAXIMUM NUMBER OF VEHICLES
TO BE KEPT OUT DOORS IS (10) TOTAL.

1 SITE / LANDSCAPE PLAN SKETCH
1/8" = 1'0"

General Notes

NOT FOR CONSTRUCTION

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DIMENSIONS
SUBJECT TO FURTHER VERIFICATION
IN FIELD BY ANY FUTURE
ARCHITECT, ENGINEER AND/OR
CONTRACTOR

DESIGN PROVIDED BY OWNER

CONTRACTOR/OWNER IS SOLELY
RESPONSIBLE TO COMPLY WITH ALL
LOCAL BUILDING CODES,
REGULATIONS & STANDARDS, ZONING
ORDINANCES AND ADA COMPLIANCE

(10) TOTAL PARKING SPACES
INCLUDING (1) HANDICAP BASED ON
AT LEAST 2 SPACES PER 100 DOOR
BAY PLUS (1) FOR EACH EMPLOYEE

4,200 SQFT OF LANDSCAPING
PROVIDED, > 25% OF TOTAL SITE

1	SKETCH	2/19/25
No.	Revision/Issue	Date

Firm Name and Address

YAHANA DESIGN & CONSULTING
DEARBORN HEIGHTS, MI

Project Name and Address

27819 PLYMOUTH,
LIVONIA, MI 48150

Project

Date
12/15/2024

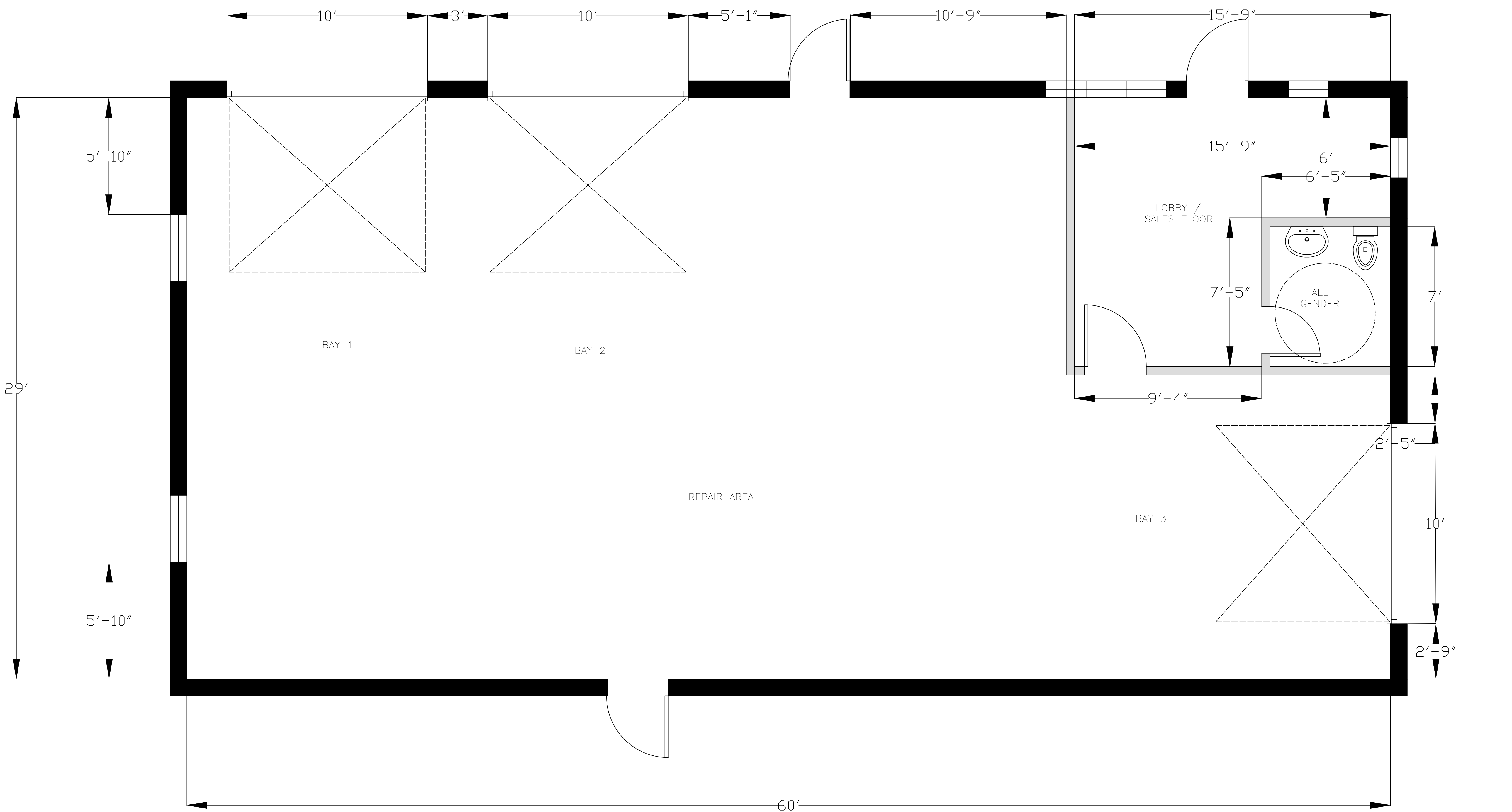
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Sheet

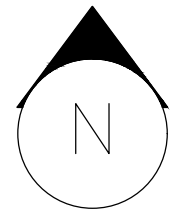
A3.0

PROPERTY LEGAL DESCRIPTION

36B937 TO 943 NEW DETROIT NO 1
T1S R9E L62 P85 WCR LOTS 937 TO
943 INCL ALSO N 1/2 ADJ VAC ALLEY



1 EXISTING LAYOUT SKETCH
3/8" = 1'0"



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1	SKETCH	12/15/24
No.	Revision/Issue	Date

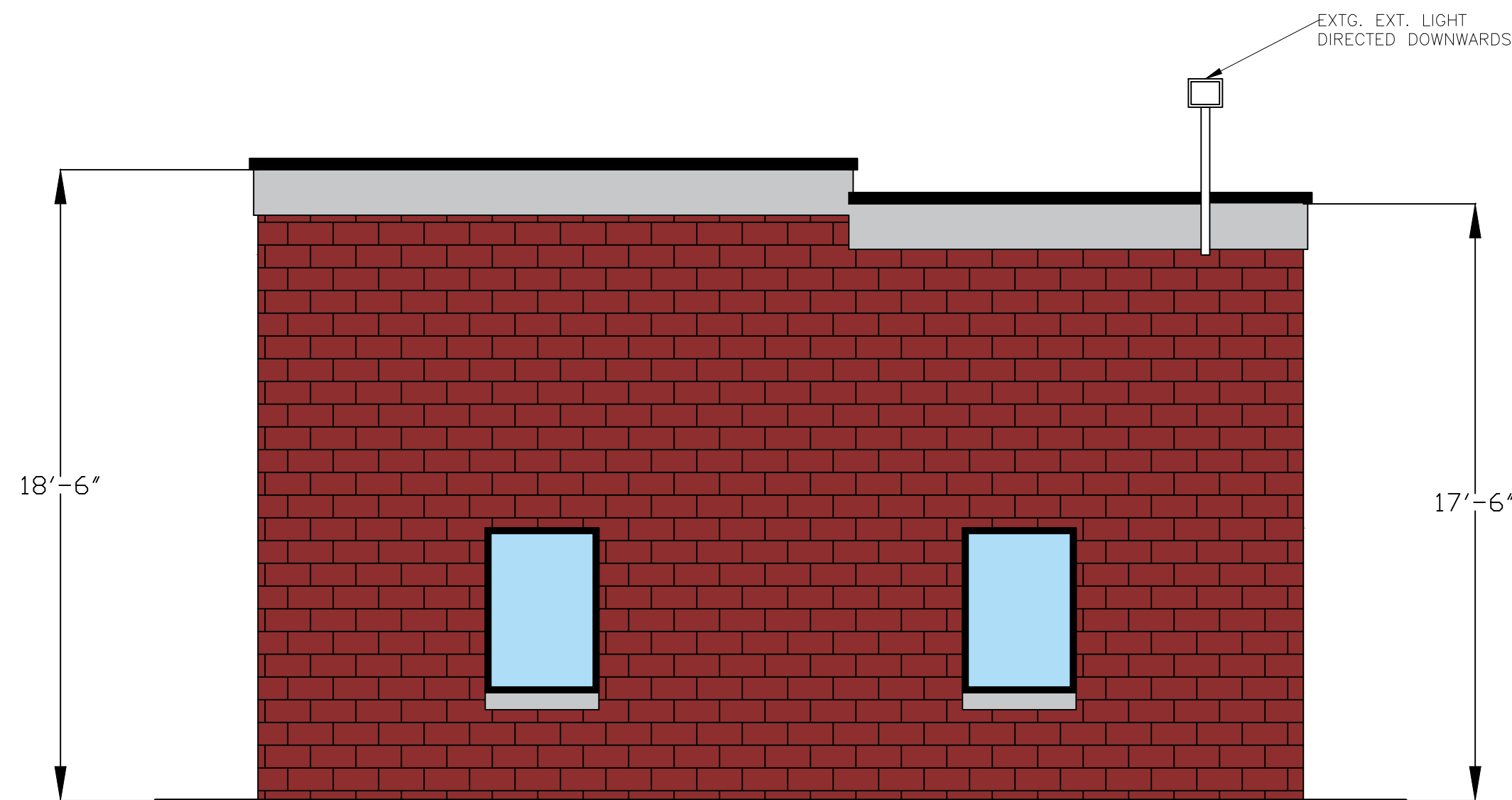
Firm Name and Address

YAHANA DESIGN & CONSULTING
DEARBORN HEIGHTS, MI

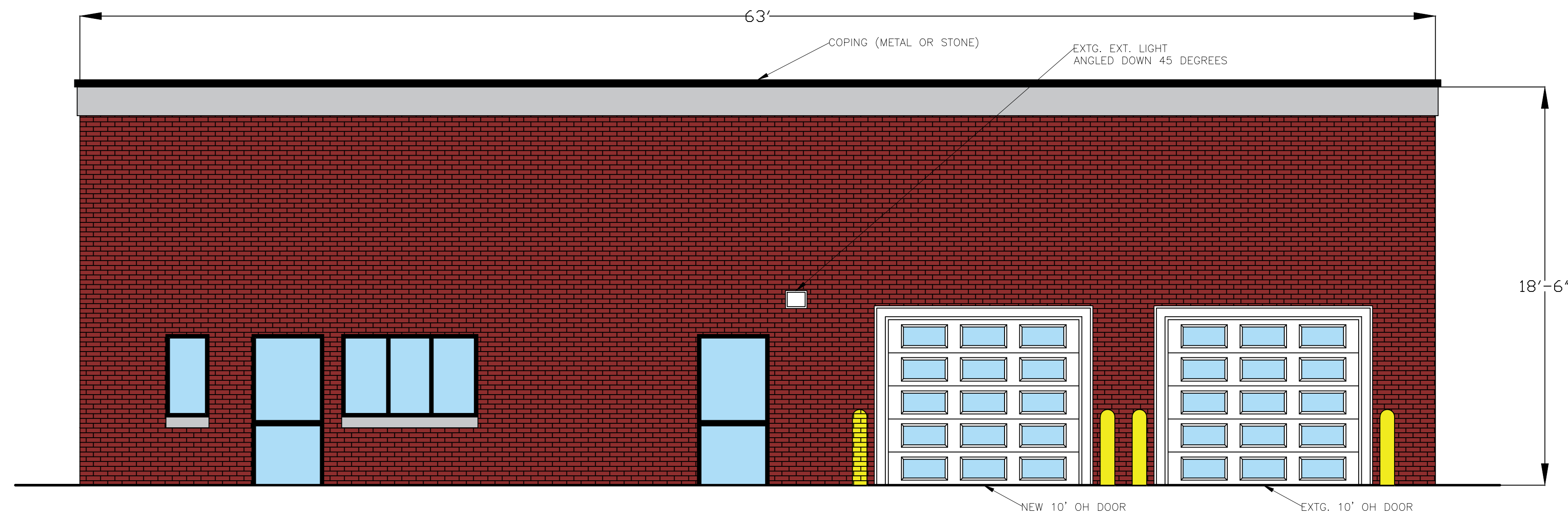
Project Name and Address

27819 PLYMOUTH,
LIVONIA, MI 48150

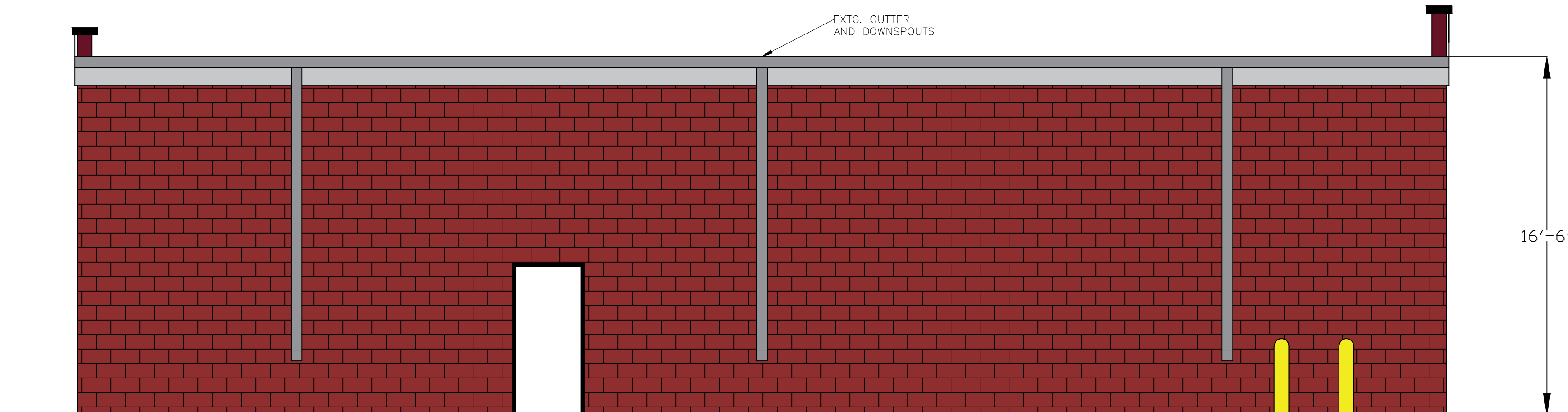
Project	Sheet
Date 12/15/2024	A1.0
Scale 3/8" = 1'0"	



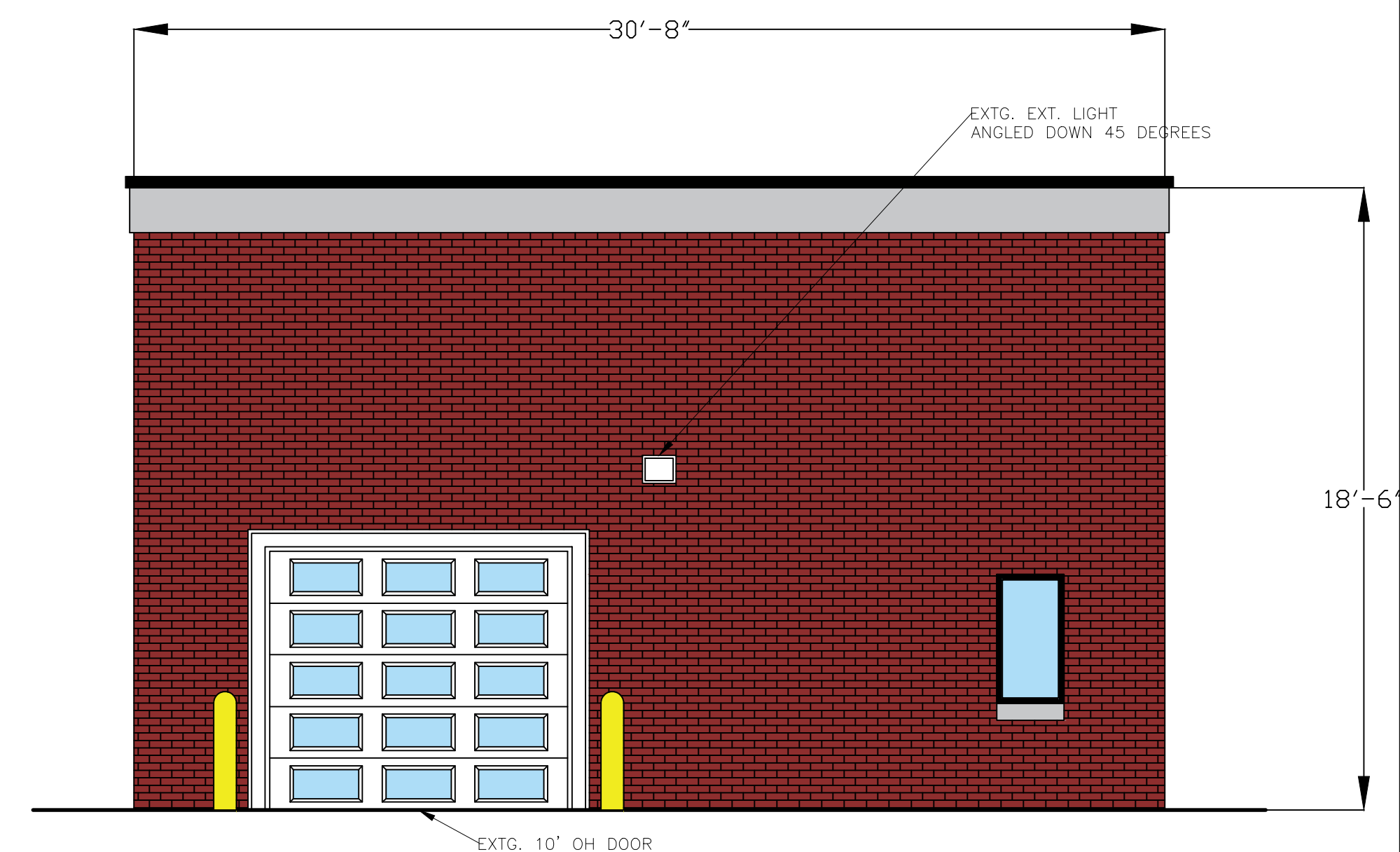
1 WEST ELEVATION SKETCH
1/4" = 1'0"



2 NORTH ELEVATION SKETCH
1/4" = 1'0"



3 SOUTH ELEVATION SKETCH
1/4" = 1'0"



4 EAST ELEVATION SKETCH
1/4" = 1'0"

PROPERTY LEGAL DESCRIPTION

36B937 TO 943 NEW DETROIT NO 1
T1S R9E L62 P85 WCR LOTS 937 TO
943 INCL ALSO N 1/2 ADJ VAC ALLEY

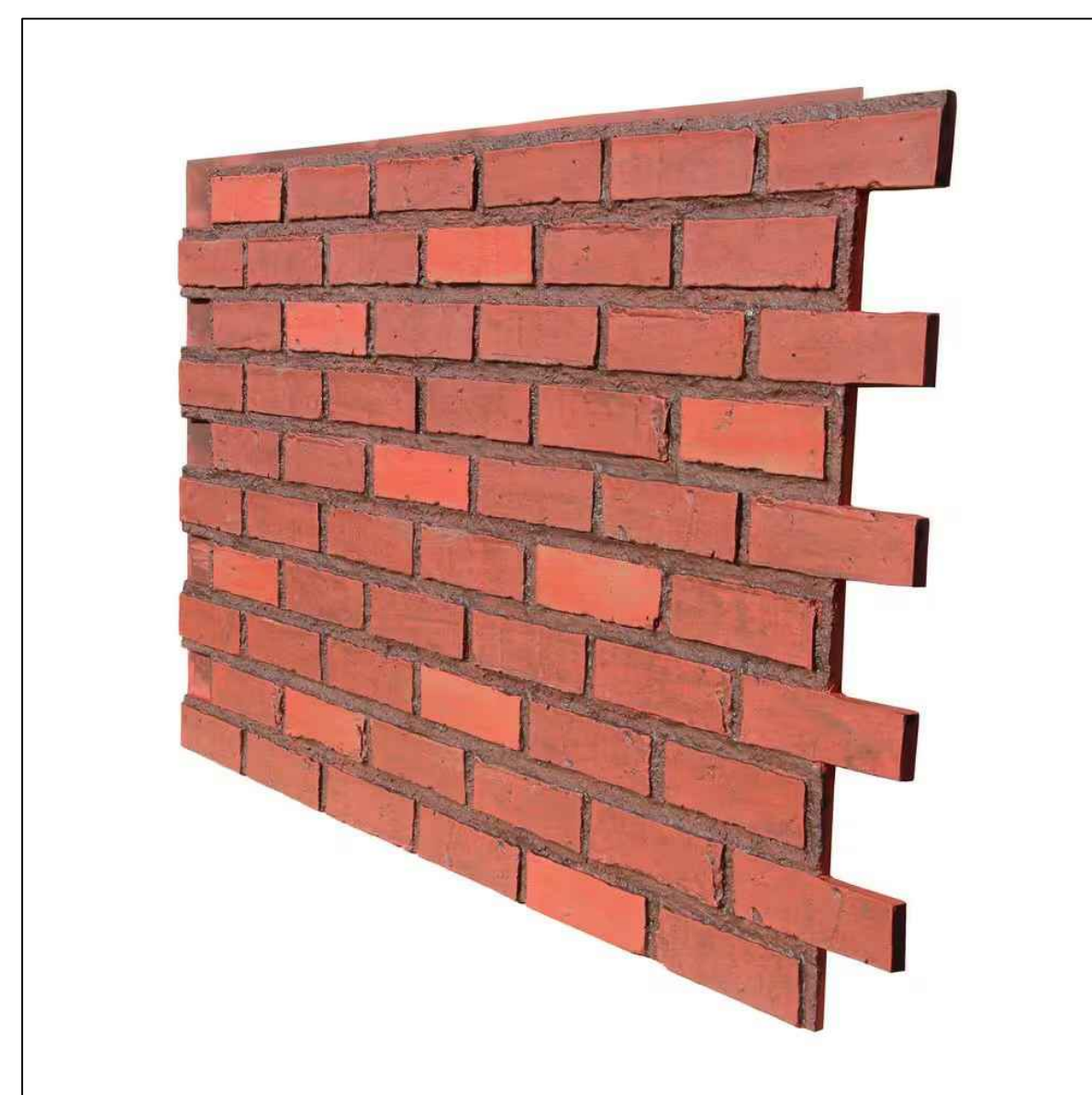


IMAGE 1

SCOPE OF WORK PROVIDED BY OWNER

NORTH AND EAST ELEVATIONS:

1. REMOVE EXISTING EXISTING STUCCO VENEER - REPLACE WITH BRICK VENEER, ENTIRE FACADE. SEE IMAGE 1
2. REMOVE CANOPY AND ALUMINUM FASCIA AND ALL ASSOCIATED FRAMING
3. NEW ALUMINUM OR STONE COPING AND FASCIA TO BE INSTALLED AT PARAPET,
4. ALL EXISTING WINDOWS, LINTELS AND DOORS TO REMAIN. NEW TRIM, FLASHING, ETC. TO BE INSTALLED
5. NEW 10' OH DOOR TO BE INSTALLED AT EXISTING LINTEL HEADER PER DRAWING
6. NEW MAN DOOR WITH ASSOCIATED HEADER AND FRAMING PER DRAWING

SOUTH AND WEST ELEVATIONS:

1. PATCH AND REPAIR EXISTING EXTERIOR BRICK/CMU WALLS
2. FINISH PAINT WITH EXTERIOR GRADE MASONRY PAINT
3. NEW ALUMINUM COPING TO BE INSTALLED AT PARAPET
4. EXISTING GUTTER AND DOWNSPOUT TO REMAIN

General Notes

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1	SKETCH	12/15/24
No.	Revision/Issue	Date

Firm Name and Address

YAHANA DESIGN & CONSULTING
DEARBORN HEIGHTS, MI

Project Name and Address

27819 PLYMOUTH,
LIVONIA, MI 48150

Project	Sheet
Date 12/15/2024	A2.0
Scale 1/4" = 1'0"	



LETTER TO THE LIVONIA CITY COUNCIL

3.

Planning
February 6, 2025

MEETING DATE

S022425/R031025

PRESENTED BY

Mark Taormina, Planning and Economic Development Director

AGENDA ITEM

WAIVER PETITION: Planning Commission, re: Petition 2025-01-02-01 submitted by Eman Enterprises LLC, requesting waiver use approval to redevelop an existing commercial site, including adding service bays, renovating the interior and exterior of the building and operating an automobile repair facility at 27819 Plymouth Road, located on the southwest corner of Plymouth and Cardwell Street in the Northeast $\frac{1}{4}$ of Section 34.

BACKGROUND DETAILS

February 10, 2025

Honorable Members of the City Council
City of Livonia, Michigan

Re: Petition 2025-01-02-01 - Eman Enterprises LLC

Dear Council Members:

At the 1,225th Meeting held by the Livonia City Planning Commission on February 4, 2025, the following resolution was adopted:

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

#02-03-2025 RESOLVED, That pursuant to a Public Hearing having been held by the City Planning Commission on February 4, 2025, on Petition 2025-01-02-01 submitted by Eman Enterprises LLC requesting waiver use approval pursuant to Section 6.06 of the City of Livonia Zoning Ordinance, as amended, to redevelop an existing commercial site, including adding service bays, renovating the interior and exterior of the building and operating an automobile repair facility at 27819 Plymouth Road, located on the southwest corner of Plymouth and Cardwell Street in the Northeast $\frac{1}{4}$ of Section 34, be approved subject to the following conditions:

1. That the Site Plan identified as Sheet No. A3.0, received January 31, 2025, prepared by Yahana Design & Consulting, is hereby approved and shall be adhered to;
2. That the Elevation Plan identified as Sheet No. A2, received January 31, 2025, prepared by Yahana Design & Consulting, is hereby approved and shall be adhered to;

3. Landscaping tree species shall be selected to the satisfaction of the Planning Department and shall conform with the ordinance requirements which may include the existing trees in the Plymouth Road right of way;
4. The parking lot shall be repaired and restriped as necessary. Parking spaces shall be 10' wide and 20' deep and double striped;
5. The van-accessible barrier-free parking space shall be sized, signed, and marked in accordance with the Michigan Barrier-Free Code;
6. An enclosure of sufficient height to completely screen the dumpster is required on three (3) sides of the waste receptacle, with a solid gate on the fourth side. The height of the enclosure must be not less than six (6) feet or at least one (1) foot above the height of the dumpster, whichever is greater. The enclosure gates shall be of solid panel steel construction or durable, long-lasting solid panel fiberglass and, when not in use, closed at all times. The enclosure must be constructed of the same or compatible material and colors as the principal building in terms of texture and quality;
7. A variance from the Zoning Board of Appeals would be required for the proposed 6-foot-tall vinyl fencing proposed on the east, west and south sides of the enclosed parking area;
8. That all light fixtures shall not exceed twenty feet (20') in height and shall be aimed and shielded to minimize stray light trespassing across property lines and glaring into adjacent roadways;
9. Any vehicles left on the premises overnight must be in operable condition and not junk vehicles, and must be stored inside the building whenever practicable, or parked in designated parking spaces as shown on the approved site plan, with a maximum of 10 vehicles located outside. Seven parking spaces shall be on the existing paved parking area along the west property line, and three of which shall be located as close as practicable to the south wall of the existing building, so that the existing grass area south of the building is maintained to the greatest possible extent, to the satisfaction of the Inspection and Planning Departments.
10. That on-street parking of vehicles along Cardwell Street is prohibited and no vehicles shall be parked between the building and Cardwell Street right-of-way.
11. That there shall be no outdoor storage of auto parts, equipment, scrap material, waste petroleum products, junked, unlicensed or inoperable vehicles, or other similar items in connection with this operation, and the overhead doors, when not in use for vehicles entering or exiting the service facility, shall always be closed;
12. That only conforming signage is approved with this petition, and any additional signage shall be separately submitted for review and approval by the Zoning Board of Appeals;
13. That no LED lightband or exposed neon shall be permitted on the site including, but not limited to, the building or around the windows;

14. The overall average illumination level for the parking lots shall be 1.0- foot candle as provided under Section 7.22 of the Zoning Ordinance;

15. That unless approved by the proper local authority, any type of exterior advertising, such as promotional flags, streamers or sponsor vehicles designed to attract the attention of passing motorists, shall be prohibited;

16. That the specific plans referenced in this approving resolution shall be submitted to the Inspection Department at the time the building permits are applied for; and

17. Pursuant to Section 13.13 of the Livonia Zoning Ordinance, this approval is valid for a period of one year only from the date of approval by City Council, and unless a building permit is obtained, this approval shall be null and void at the expiration of said period.

FURTHER RESOLVED, That notice of the above hearing was given in accordance with the provisions of Section 13.13 of Livonia Zoning Ordinance, as amended.

ATTACHMENTS

1. 2025-01-02-01_E-COUNCIL Pkt

APPROVED BY



Mark Taormina, Planning and Economic Development Director

Date: February 12, 2025



Maureen Miller Brosnan, Mayor

Date: February 14, 2025

Petition 2025-01-02-01 submitted by Eman Enterprises LLC

requesting waiver use approval pursuant to Section 6.06 of the City of Livonia Zoning Ordinance, as amended, to redevelop an existing commercial site, including adding service bays, renovating the interior and exterior of the building and operating an automobile repair facility at 27819 Plymouth Road, located on the southwest corner of Plymouth and Cardwell Street in the Northeast ¼ of Section 34.

CITY OF LIVONIA, MICHIGAN
APPLICATION FOR WAIVER USE APPROVAL

All applications must be presented in triplicate to the City Clerk, 33000 Civic Center Drive, Livonia, MI 48154-3097. Applications **must** include property owner's name, address and notarized signature.

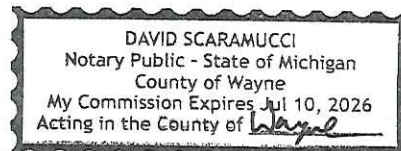
For filing fee see below for computation

Date Filed: 1-2-25 Petition 2025-1-02-01
Site Address: 27819 Plymouth Rd Sidwell 141 02 0937 000 Zoning of Property C-2
Requesting Approval To Automotive Repair
Applicant: Mohammed Essa Business/Company: Eman Enterprises LLC
Applicant's Address: 4320 Seymour City: Dearborn State: Mi Zip Code: 48126
Applicant's Phone # (313) 850-7130 Applicant's Email Moessa1@yahoo.com
Contact Person: MOE Business/Company: _____
Contact's Address: 4320 Seymour City: Dearborn State: Mi Zip Code: 48126
Contact's Phone # (313) 850-7130 Contact's Email Moessa1@yahoo.com

Please provide the following information:

- 1) **Site Plan** showing:
 - property dimensions, including road right-of-way & building setback lines
 - foot print of building(s), including dimensions & square footage
 - all easements, protective walls, sidewalks & existing trees
 - any significant topographic features (existing or proposed)
 - parking layout, including type of surface material, sizes of spaces & aisles
 - method used in calculating parking requirement
 - location of light standards servicing parking lot & cutout showing type & height
 - location of trash receptacle, including description of screening
 - location of signs
- 2) **Detailed Landscape Plan** including:
 - listing or labeling of all planted materials as to type and size
 - areas to be fully irrigated
 - percentage of landscaping provided (15% of total site required)
- 3) **Building Elevation Plan** depicting:
 - architectural quality
 - wall section & detail plan - exterior building materials must be labeled (i.e. brick, thin brick, E.F.I.S.)
 - all visible rooftop mechanical equipment and how they will be screened
- 4) **General Floor Plan** showing:
 - floor layout
 - entrances & exits
 - restaurants are required to illustrate seating arrangement & capacity
- 5) **One (1) set of reduced plans** (i.e. site, landscape, elevation, floor), a maximum 11" x 17" in size, or digital file in a .pdf format either on CD or emailed to planning@livonia.gov
- 6) **Legal Description** of the property to be considered (Clearly Printed)
- 7) Three (3) completed application forms & **three (3)** sets of full-size drawings

RECEIVED
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2025 JAN -2 PM 3:08



You are invited and encouraged to review your proposal with the Planning Department staff. Only one set of preliminary drawings will be necessary for this analysis.

FEE COMPUTATION	\$700.00	(\$400 publication fee plus \$300 base review fee) plus
<u>0</u> sq. ft. of new construction x \$20.00 per 1,000 sq. ft. plus \$30 per lot or unit for residential construction.		
	(NOTE: Round off to nearest 1,000)	+
	Total Amount Due	\$ <u>700.00</u>

Owner of Property: Eman Enterprises LLC
Owner's Address: 4320 Seymour City: Dearborn State: Mi Zip Code: 48126
Owner's Phone # (313) 850-7130 Owner's Email Moessa1@yahoo.com
Signature of Owner: [Signature] Print Name: Mohammad Essa
Subscribed and sworn to before me, a Notary Public in and for the County of Wayne State of Michigan
on this 2nd day of January 2025.
Signature of Notary [Signature] My commission expires 07/10/2026.
Acting in the County of Wayne.

UNAPPROVED MINUTES

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MINUTES OF THE 1,225th PUBLIC HEARINGS AND REGULAR MEETING HELD BY THE CITY PLANNING COMMISSION OF THE CITY OF LIVONIA

On Tuesday, February 4, 2025, the City Planning Commission of the City of Livonia held its 1,225th Public Hearing and Regular Meetings in the Livonia City Hall, 33000 Civic Center Drive, Livonia, Michigan.

Mr. Ian Wilshaw, Chairman, called the meeting to order at 7 p.m.

Members present: Wafa Dinaro Patrick Droze David Bongero
 Sam Caramagno Glen Long Peter Ventura
 Ian Wilshaw

Members absent: None

Mr. Jacob Uhazie, Planning Director, and Stephanie Reece, Program Supervisor, were also present.

Chairman Wilshaw informed the audience that if a petition on tonight's agenda involves a rezoning request, this Commission makes a recommendation to the City Council who, in turn, will hold its own public hearing and make the final determination as to whether a petition is approved or denied. The Planning Commission holds the only public hearing on a request for preliminary plat and/or vacating petition. The Commission's recommendation is forwarded to the City Council for the final determination as to whether a plat is accepted or rejected. If a petition requesting a waiver of use or site plan approval is denied tonight, the petitioner has ten days in which to appeal the decision, in writing, to the City Council. Resolutions adopted by the City Planning Commission become effective seven (7) days after the date of adoption. The Planning Commission and the professional staff have reviewed each of these petitions upon their filing. The staff has furnished the Commission with both approving and denying resolutions, which the Commission may, or may not, use depending on the outcome of the proceedings tonight.

ITEM #1 PETITION 2025-01-02-01

Eman Enterprises

Mr. Caramagno, Secretary, announced the first item on the agenda, Petition 2025-01-02-01 submitted by Eman Enterprises LLC requesting waiver use approval pursuant to Section 6.06 of the City of Livonia Zoning Ordinance, as amended, to redevelop an existing commercial site, including adding service bays, renovating the interior and exterior of the building and operating an automobile repair facility at 27819 Plymouth Road, located

on the southwest corner of Plymouth and Cardwell Street in the Northeast ¼ of Section 34.

Mr. Wilshaw: Thank you, Mr. Secretary, Mr. Uhazie.

Mr. Uhazie: This is a request to renovate and operate automobile and light truck repair up to one ton, which is regulated under Section 6.06 of the zoning ordinance. As mentioned, it is located on the southwest corner of Plymouth and Cardwell Street. The existing zoning is C-2 (General business). To the north and northwest are commercial properties which are zoned C-1 (Local business), while the northeast is zoned C-2 as well. To the east, across Cardwell Street is the Royal Motor Inn, which is zoned C-2. To the south is the Thomas Elliott subdivision and is zoned N1 for neighborhood. And finally, to the west of the site is a small commercial building zoned C-2. A little history on the site. The site was previously approved to be light auto repair facility in 1971 and again in 1982, although the use was never put into operation. The prior occupant was Mickey Shorr Electronics, who was granted approval to expand the existing building in 1987. The building currently sits vacant. The subject property is 0.37 acres in area with 148 feet of frontage on Plymouth Road and 110 feet along Cardwell Street. The existing building measures approximately 2,049 square feet with two driveways that provide access to the site, one on Plymouth Road and another off of Cardwell Street. Parking requirements for automobile and truck repair facilities are required as two spaces for each workstation, plus one space per employee. The floor plan shows three bays and three workstations that would operate with up to three employees. The minimum required parking is nine for the three bays. We have received an updated site plan since our study session. This new site plan shows three parallel parking spaces next to the Plymouth Road right of way, and an additional eight parking spaces along the western property line. The parking configuration on the plan shows five parking spaces are located in front of the site, and another 10 additional spaces are behind the proposed fencing area. Under Section 6.06 all vehicles left at the facility for repair overnight must be stored within the building, and absolutely no dismantled damage or unlicensed vehicles shall be permitted on the site. The ordinance also states that the total number of vehicles stored and awaiting work shall be subject to recommendation by the Planning Commission and be approved by City Council. Another change from the study session is the dumpster enclosure has been moved from the rear of the site and attached to the northwest corner of the building. The site plan

shows additional landscaping was added along Plymouth Road and Cardwell Street. Along Plymouth Road, there are 14 shrubs, two trees, which are located in front of the PRDA fencing, and an additional 16 shrubs located between the driveway and the corner. On Cardwell Street the plan shows three deciduous trees and 10 shrubs. The shrub species are listed as boxwood and the type of trees not given, but the plan states that the specific species will be selected from the Livonia approved species list. The zoning ordinance requires the following on Plymouth Road: three deciduous trees or evergreen, two ornamental trees and 24 shrubs, and along Cardwell Street, two deciduous trees or evergreen, one ornamental and 10 shrubs. The site plan also shows updates to the existing and proposed fencing. The existing wooden fence at the rear of the property would be replaced with a six-foot high masonry wall. The rest of the fencing is listed as being a six-foot-high vinyl privacy fence, or block fence to match the proposed rear wall. No signage plans were submitted with this petition. On the elevations the existing stucco veneer would be replaced by a brick veneer on the north and east walls. The canopy, aluminum fascia and all associated framing would be removed and replaced with the new aluminum or stone coping and fascia at the parapet. All the existing windows and doors would remain. On the south and west elevation, exterior brick or CMU walls will be patched and repaired. The new elevation plan shows the daylighting of existing windows that are currently bricked over. One new window is shown on the east elevation, and there are two additional windows shown on the north elevation. Additionally, the updated elevation plan identifies lighting that will be angled down at 45 degrees. With that, Mr. Chairman, I can read out the departmental correspondence.

Mr. Wilshaw: Yes, please.

Mr. Uhazie: The first item is from the Engineering Division, dated January 16, 2025, which reads as follows: *"In accordance with your request, the Engineering Division has reviewed the above referenced petition. We have no objections to the proposed waiver use at this time, but would like to note the following items: 1. The subject parcel is assigned the address of #27819 Plymouth Road. Should additional addresses be needed, the Owner will need to contact this Department once approvals have been obtained. 2. The existing parcel is currently serviced by public sanitary sewer and water main. The submitted drawings do not include any proposed utility information or calculations, so we cannot comment on any proposed impacts*

to the existing systems, but we do not believe the proposed usage will adversely affect the existing utilities. Should alterations to the existing services be required, the owner shall submit drawings to this department to determine if permits will be required. 3. Although the drawings do not indicate any future utility information, it should be noted the any proposed re-development other than building renovations will be required to provide storm water improvements and detention per the Wayne County Stormwater Ordinance . 4. Any disturbances with the Plymouth Road right-of-way will require permits through the Michigan Department of Transportation, including drive approach and sidewalk removals and placements.” The letter is signed by David W. Lear, P.E., Assistant City Engineer. The next letter is from the Livonia Fire & Rescue Division, dated January 31, 2025, which reads as follows: “ This office has reviewed the site plan submitted in connection with a request to renovate a commercial building on the property located at the above referenced address. We have no objections to this proposal with the following stipulations: Evaluation for possible suppression system and fire alarm installation due to vehicles that are EV. A further detailed plan review will take place when this division receives an official plan set.” The letter is signed by Brian Kukla, Fire Marshal. The next letter is from the Division of Police, dated January 17, 2025, which reads as follows: “I have reviewed the plans in connection with the petition. I have no objections to the proposal.” The letter is signed by Paul Walters, Sergeant, Traffic Bureau. The next letter is from the Inspection Department, dated January 29, 2025, which reads as follows: "Pursuant to your request, the above-referenced Petition has been reviewed. 1. The parking lot shall be repaired and restriped as necessary. Parking spaces shall be 10' wide and 20' deep and double striped. 2. The van-accessible barrier-free parking space shall be sized, signed, and marked in accordance with the Michigan Barrier-Free Code. 3. An enclosure of sufficient height to completely screen the dumpster is required on three (3) sides of the waste receptacle, with a solid gate on the fourth side. The height of the enclosure must be not less than six (6) feet or at least one (1) foot above the height of the dumpster, whichever is greater. The enclosure gates shall be of solid panel steel construction or durable, long-lasting solid panel fiberglass and, when not in use, closed at all times. The enclosure must be constructed of the same or compatible material and colors as the principal building in terms of texture and quality. 4. A variance from the Zoning Board of Appeals would be required for the proposed 6' tall vinyl fencing proposed. This Department has no further objections to this

Petition..” The letter is signed by Jerome Hanna, Director of Inspection. The next letter is from the Finance Department, dated January 31, 2025, which reads as follows: “I have reviewed the addresses connected with the above noted petition. As there are no outstanding amounts receivable, general or water and sewer, I have no objections to the proposal.” The letter is signed by Connie Kumpula, Chief Accountant. The next letter is from the Treasurer’s Department, dated January 17, 2025, which reads as follows: “All taxes on this property are current.” The letter is signed by Susie Nash, Treasurer. Next is a letter from a resident, dated February 3, 2025, which reads as follows: “Dear City of Livonia Planning Commission and everyone this letter concerns, I am writing this letter regarding petition 2025-01-02-01 submitted by Eman Enterprises LLC. Property known as 27819 Plymouth Rd Livonia, MI. I own the residential property that is right next door to the above-mentioned property. I am writing this letter asking you not to approve this type of business. I will state my reasons. This property is not a large property. This would mean cars that are waiting to be worked on would be stored outside. The person that is looking at buying or leasing the mentioned property is already using the property to store vehicles. I have seen a tow truck going in and out of the property. Where would this tow truck be stored? Visually with the stored cars and tow truck, this would not be a good look to our neighborhood and community. This building currently has two bay doors. One facing north toward Plymouth Rd. The other facing east exiting out on to Cardwell. Cardwell is a residential street. Automobile repair facilities like the one mentioned above are generally noisy businesses. Air compressors are generally used with air tools such as air impact guns, air chisels and a variety of other air tools and hammering tools to remove broken and stuck parts on vehicles. There is also the noise of the tow truck and vehicles being moved around and stored on the property. Please refer to the maps of how my property 11563 Cardwell and 27819 Plymouth Rd are in close proximity of each other. There is very little distance between my residence and the business that is looking to get a waiver to use this property. The reason this property is not zoned for this type of business is to protect the residents from the above-mentioned concerns and noise. City of Livonia Planning Commission please look at the number of already existing auto repair facilities we already have in this area. The one mile of Plymouth Rd, between Middlebelt and Inkster roads, there are already seven Automobile repair facilities and one car wash. 1. Firestone Complete Auto Care 29200 Plymouth Rd. 2. Livonia Car & Truck Repair 28850

Plymouth Rd 3. Oval Auto Repair 28735 Plymouth Rd 4. Speedy Auto Service 28411 Plymouth Rd 5. Livonia Auto Sellers 29068 Plymouth Rd 6. Feinn Tire Repair Facility 28055 Plymouth Rd 7. Raceway Pit Stop 28085 Plymouth Rd 8. Zax Auto Wash 36001 Plymouth Rd I would also like to remind the City of Livonia Planning Commission that a few years ago you denied a rezoning for a car dealership/repair facility for the same concerns as I have mentioned above. The property I am referring to is located at 28121 Plymouth Rd Livonia, MI 48150. This property was the former location of Penalty Box Bar. I ask that you reference back to the reason you did not rezone the above mentioned property and denied a waiver of use. One of the main reasons this business was denied a waiver of use, the size of the property and how close it was to the proximity of residential homes. This property at 28121 Plymouth Rd is larger in size and has more distance from the resident's home then the property at 27819 Plymouth Rd which is next to where I live. Another reason the Planning Commission denied a "waiver of use permit" was concern of noise pollution to the residential neighborhood. In closing, Livonia has zoning ordinances for a reason. The reason is to protect residents and neighborhoods from businesses that do not fit in a particular location. This business does not belong at this location and that is why a "waiver of use permit" is being asked for. I ask the City of Livonia to enforce the current zoning laws and deny this business. Thank you for your time." The letter is signed Jeff Nicholas, 11563 Cardwell, Livonia, MI. The last letter is from a resident, dated February 4, 2025, which reads as follows: "In regards to this I have some concerns. I am all for businesses being rehabilitated but when we have so many other car repair facilities on Plymouth road how will this affect business. What is the sound impact? Currently there is a bay that faces the neighborhood and my backyard faces that. I don't want to hear the various repair tools running all day. It's a large disruption to anyone If the business were to go in, I would say that the bays in use could only face Plymouth road, this would held reduce any excess noise going into it the neighborhood. No doors or bays facing residential areas. I can't imagine the sound for the person who lives directly behind it. I think there are other more commercial slots this would fit in. If the petition passes , I would also suggest that additional landscaping be put I place to reduce noise. What are the hours of this proposed business? Are we to hear the noise all day/evening and weekend? I enjoy my backyard and also wfh, if all I hear is pneumatic tools it will distract from enjoying my home and I would have to keep windows shut to avoid interruption to my work. Where will

excess cars be parked? The lot is very very small and there is no room for parking. Will they park in the streets blocking spots for any residents to use? Overall I disagree with the petition and hope that Livonia agrees. Mickey shores was bad enough this will only be worse." The email is signed Kelly Richard, Cavell St., Livonia, MI. That is the extent of the correspondence.

- Mr. Wilshaw: Is there anything else, Mr. Uhazie? Okay. Ms. Reece, just a question for you. You don't see this picture on the TV on the outside, do you? I don't think anybody's in the booth broadcasting. I just looked and I don't think we're live, so...I don't know they fall asleep or what? Thank you. I appreciate that.
- Mr. Wilshaw: We'll continue on with the meeting, though, because the show must go on, as they say, as our petitioner here. If you want to come forward to our podium. Is there any questions for our planning staff before we hear...Mr. Droze.
- Mr. Droze: I guess there is a question about landscaping. Do we count landscaping in the right way towards the site, or does it need to be on the site proper?
- Mr. Uhazie: We count on the site proper, but there have been cases where if the space isn't available, that can be counted or in lieu of some kind of stuff that we would require.
- Mr. Droze: And then one other question. There was a note on the building official regarding a variance being required for the fence. Is that related to the vinyl fence or the wall.
- Mr. Uhazie: I read that as the fencing along the west of the property adjacent to the other commercial properties.
- Mr. Droze: Okay, any idea why? Is that just typical?
- Mr. Uhazie: That's just the typical fencing process.
- Mr. Droze: Okay, got it. And then the last question, did we receive any information regarding the masonry wall? And maybe the petitioner can offer that, but I didn't see anything in the packet about the materials.
- Mr. Uhazie: No details about materials, just that it would be changed to a masonry wall.

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- Mr. Droze: Okay, thank you.
- Mr. Wilshaw: Thank you. Mr. Droze. Any other questions?
- Mr. Uhazie: I don't know why this went out.
- Mr. Wilshaw: Yeah, I think we got our broadcast going, though that may have knocked out your feed there.
- Mr. Wilshaw: I will let you work on that. Thank you. Ms Reece, for checking on that. Any other questions for planning staff? Mr. Bongero.
- Mr. Bongero: Jacob, so in the ordinance 6.06 they can't have any cars outside. They all have to be pulled inside the building at the end of the day?
- Mr. Uhazie: Unless that is waived by the Planning Commission and Council. It stipulates that, based off the plan, they can keep x amount of cars...
- Mr. Bongero: Because it's kind of confusing. It says no...all vehicles that are left for repair overnight must be stored within the building, and then it says Planning or Council can dictate how many numbers are stored inside.
- Mr. Uhazie: It is a little confusing, but if the Commission and Council decide to waive that, they can park the set number of cars outside in the rear part.
- Mr. Wilshaw: Okay, that's it. Appreciate Thank you.
- Mr. Wilshaw: Thank you, Mr. Bongero. Any other questions for staff? Okay, I think we covered all that. Thank you, sir, for being here tonight. You're our petitioner, if you want to start with your name and address for our record.

Mohammed Essa, 27819 Plymouth Road, Livonia, MI.

- Mr. Wilshaw: Excellent. Thank you, sir. And what would you like to tell us about your business that you want to operate here?
- Mr. Essa: Well, the business, I believe, has been auto related since it was built. I think it was originally a gas station with auto service when it was originally built. I would like to continue the auto service. But, you know, include auto repair. There's currently three existing bay doors. The third door is hidden. I showed you guys

pictures last week, so that overhead door is still there. There's two in ground hoists that will be removed above hoist instead. So I would like to operate as an auto repair, light auto repair, you know, maintenance, brakes, tune ups, tires, mufflers, you know, exhaust, whatever, just maintenance, like the Midas down the street, basically. As far as I think Patrick was trying to zone in on the two trees, there's two Wayne County trees that are between Plymouth Road and the sidewalk. So, when we did the landscaping, I spoke with Jacob, I told him there's two already existing. I know they're not on the city side, but there's two on there, so we thought maybe we'll present that. We'll only plant the three in the front. That'll be a total of five, but if more are required, you know, we don't have a problem putting more trees. As far as that fence in the back, the whole reason to enclose that fence is to leave some cars outside overnight. The three parallel parking spots that we're proposing in front are only to be used during hours of operation. So, you can see that on the site plan. So if there is anything that's going to stay overnight, it'll be behind the wall. Nobody will see them from Plymouth Road at all.

Mr. Wilshaw: It'll be in the fenced area.

Mr. Essa: In the fenced area, correct.

Mr. Wilshaw: Anything else you'd like to tell us about your business before we go to questions?

Mr. Essa: Not really. I mean, unless you have any questions,

Mr. Wilshaw: We'll see what we have here. Any questions for our petitioner? Ms Dinaro.

Ms. Dinaro: I have some questions. So, since we saw the site plan at the study session, there's quite a few changes. Can you talk me through, specifically the fencing, the lighting and the landscaping?

Mr. Essa: Sure. Well, the fencing, the rear wall, Jacob told us, must be masonry, so we have to put that masonry. Depending on the pricing, and you know how it's going to turn out, I assume the east and west, you know, I didn't know whether I was going to go vinyl or masonry to match the rear wall yet, until I see what the estimates are for that. But the rear wall must be masonry because it attaches to a resident, so that's why we changed that to masonry instead of vinyl. The landscaping was updated

because it needed to be beefed up, as Jacob told us, so we tried to meet all of the ordinance requirements. I believe we met the shrub requirements on the north and the east side. We met the tree requirements on the east side, on Cardwell Street and on the north side, if you include the two trees that are preexisting from Wayne County, then we should meet those requirements as well. If you need more trees or shrubs, you know, I'm not opposed to it. Lighting is going to be nothing is going to shine towards the street. They're going to be 45 degrees or down. I was planning on just having building mounted lights, but I think Jacob told me that he would like a pole. So, if I do put a pole in the back area where the fence is, it'll be towards the rear residence, facing the building so the rear resident will not have any visual effects. And another thing that noise complaints. So noise, you know this Mickey Shorr used to install audio equipment and alarms with boom boxes and kicker boxes and stuff. I'm not sure if any of you are familiar with what that is, but I don't believe auto repair shop will generate as nearly as much sound as Mickey Shorr used to. And all of the tools that are used these days, or 90% of them, are electronic these days, so all the impacts and everything in air red are ratchets have been converted to electrical tools like your drills and stuff at home, so there's no more loud air tools there. It will be an air compressor, but it's going to be only used for the tire machine and for airing up vehicles. Mickey Shorr had a air compressor at all times in their facility. So, I don't think it's going to cause noise disturbance, to be honest. As far as smell, I think I seen the report somebody...smell pollution or whatever. This is not an auto body shop. So, there's no paint work. There's no bondo work. You know? There's no fumes.

Ms. Dinaro: So, just a follow-up question. So, there's going to be three bay doors, two facing Plymouth, one facing the neighborhood. What are they all used for? Can you tell me about the uses? Are they different?

Mr. Essa: They're all the same depending on how many vehicles you have to work on.

Ms. Dinaro: Okay? Thank you.

Mr. Wilshaw: Thank you. Ms Dinaro. Any other questions? Mr. Ventura.

Mr. Ventura: Just to follow up on Ms. Dinaro's question. So there's no bay door facing south, facing the house behind you.

Mr. Essa: No, no, no doors facing south, just one on the east.

Mr. Ventura: So the only bay door that is not facing Plymouth Road is facing Cardwell on the east, correct? And on the other side of Cardwell from there is the motel, not a resident, correct?

Mr. Essa: Correct.

Mr. Ventura: It's a motel. So, you really don't have a bay door facing anybody's house.

Mr. Essa: No.

Mr. Ventura: Do you own a tow truck? Are you gonna have a tow truck there?

Mr. Essa: I own a tow truck, Yes, I do on a tow truck.

Mr. Ventura: And how do you...why do you have this truck? What do you do with that?

Mr. Essa: Well, I had two other businesses. I told you I was selling the one in Redford, right? So, I do have a tow truck that's gonna stay with me. Am I gonna leave it here? Am I gonna leave in Plymouth? I don't know, but if I do leave it here, or if it does be here, it'll be behind the brick wall. It's a little wrecker.

Mr. Ventura: How many vehicles do you anticipate would be in the fenced area on an ongoing basis? In other words, if we were to approve this and say we would authorize three vehicles out there overnight within the fenced area, would that, would that be sufficient?

Mr. Essa: Well, I hope to be a lot busier than that, but I don't know. I would think, I would expect at least 10 overnight in the rear, if you know, and I'm trying to close this. There are other auto repair shops down Plymouth Road. I know they're probably grandfathered, and they have no privacy fences at all, and they have cars in their lot overnight all the time, but I'm hoping I'll be way more successful than three behind the building. Now I can bring two per bay if I raise one up and stick one underneath it, maybe. If they're little cars, but do I really want to do that all winter long? And, you know, rainy days and stuff I don't know, I'd rather avoid that. The whole the whole point of putting that wall up or that privacy fence is to...

Mr. Ventura: Hide the cars

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- Mr. Essa: Correct, so it's not a disturbance or a nuisance or eyesore. So that's the whole point of putting that fence. If no cars are going to be allowed outside, then I can avoid spending all that money on that fence.
- Mr. Ventura: What do you anticipate your hours of operation to be?
- Mr. Essa: Generally, my hours are nine to six, but if I have to put something on record, I would like to say eight to seven, just in case. Someone gets their a little early five days a week, Monday through Saturday.
- Mr. Ventura: Six days a week.
- Mr. Essa: Yeah, Saturday, usually 10 to four, 10, to five. Well, again, I'd rather give those...
- Mr. Ventura: Closed on Sundays?
- Mr. Essa: Closed on Sundays.
- Mr. Ventura: Jacob, did we have all the pictures? Did they come back up again for everybody, for the exterior. So, the total exterior the building is going to be resurfaced with brick?
- Mr. Essa: No, just the north and the east. The west and the south are going to be fixed and painted. They're really not that bad. It's just cinder block. But there's no point to rephrase those I believe, and spend that kind of money when those two sides are hidden, you know. But the entire outside of the building is going to be renewed. The north side and the east side will be updated. Updated and brand new with veneer, and the west and south was going to be painted. It'll look new, but it's not going to be. I'm not going to veneer, is what I'm saying.
- Mr. Ventura: Understood. All right. Thank you.
- Mr. Wilshaw: Thank you. Mr. Ventura. Any other questions for our petitioner? Mr. Droze.
- Mr. Droze: Thanks for making some of the updates to the plan that we noted at the study session, but I will ask about a couple ones that I didn't see. So, we had talked a little bit about potentially reducing some of the continuous driveway along Cardwell and introducing green space maybe. Maybe talk to that decision about why that wasn't included.

- Mr. Essa: Correct. I spoke with Jacob about that, and I don't mind, I don't mind putting the grass there. It's very small area. I thought if somebody were to park there, it's more money for Livonia, because they can ticket him. You know what I mean? Because I'm never going to park there. And I don't assume anyone will. It's really a small area. It's not big. It's not made for a vehicle. My thing is, the cement there is 12 inches thick. This is an old gas station. And back in the 50s, they were putting in cement 12 inches thick and on top of that you have four inches of asphalt. So, do I want to cut through that and put grass, I don't know, unless I build like, above ground garden, you know. I don't know what the name of it is, but I can make something like that to go there. But I really don't want to rip up the cement floor. And those sidewalks, by the way, somebody changed them. They're not three feet, they are like five feet wide over there.
- Mr. Droze: And then the three parking spaces in front. Again, the site is over parked. I think Jacob, Mr. Uhazie, you said nine spaces was required, we have 15. Was there any consideration given to giving more green space along the Plymouth road frontage?
- Mr. Essa: We could, but the same thing applied about the cement and the asphalt. It really is tech. It really is. I mean, I'm not making this up. If somebody comes out there and takes a sample, you'll see. It's not easy to just rip and apply grass.
- Mr. Droze: I understand.
- Mr. Essa: Yeah, no problem. I was hoping we can waive that variance, but I don't know if you need me to build above ground garden, or like landscape area between the building and the side bay, because I'm not opposed to that, because no car can fit there anyway. I really didn't feel like ripping up the ground. You know, that's all.
- Mr. Droze: Understood. The other one that we...you touched on is lighting. So, you mentioned that you potentially would add some light poles in the back of the site potentially, or is that...
- Mr. Essa: If need be. Again, I'm not worried about theft, you know, I think Livonia is pretty safe. And if it's gonna be a masonry wall and it's gonna be locked, you know, I don't think I'll have a problem, but if I do, then it'll be against the rear what is now the wooden fence facing Plymouth Road, either had a 45 or down, okay, if

we have to put... I was hoping to put just building mounted lights.

Mr. Droze: Okay, yeah. And again, the point of that was, and I did see them on the back of the building, was really just more so for the neighbors, if that it is 45 but it's still a line of sight. So ideally, if you could incorporate some...

Mr. Essa: Yeah, I don't mind. We can do that.

Mr. Droze: I wanted to ask you the decision to move the dumpster forward, can you speak about that?

Mr. Essa: Yeah, that came up with my engineer, if we're going to put a masonry wall and a fence in the front some of these garbage companies. I see them coming at 4,5,6, in the morning, even before we get there. So how am I going to let them in if that gate is going to be locked, the front gate? Because I don't expect to leave that gate to get in the back, open or unlocked at all times. So, I would like to lock it. That's the only means of security I would have. So, to get around that we have to move it up front so we don't have to be there if the dumpster guy comes. That was the only reason why we brought it there.

Mr. Droze: Understood. And the plan notes asphalt or gravel for the parking lot in back. And I'll tell you what I'm getting at with this concern. So obviously, we're going to have vehicles that you know potentially have some problems that might be leaking, whether it's fuel oil, whatever the liquid might be, I think our hope would be that be an impervious surface, like a asphalt or a concrete,. And then I guess a question, have you looked at the drainage? Because right now, I think that area kind of runs off to the street. Do you plan to do storm sewer and potentially water quality for moving oils and sediments?

Mr. Essa: I want to stayaway from any storm water, because Wayne County i think requires some underground detention. So, I want to stay away from doing anything storm water. That's why I wasn't expanding the building or doing anything with the building itself, other than refacing it.

Mr. Droze: Okay, but you do intend to manage the drainage within your site and not put it out to the street.

Mr. Essa: To be honest with you, I haven't even looked at the drainage to see if there's any sewers or anything on the property. I never went back there, really, not as of yet. I mean, I went back there,

but I didn't inspect for that, to be honest. I just looked at the yard and seen how it was okay, but I can take a look and get back to you, I don't know.

Mr. Droze: And then I guess my last question on the fencing, obviously, it's adjoining with the neighbors. Have you had conversations about the material that you'd use for that? Do you have samples that?

Mr. Essa: No, not yet. Not yet. The only thing I noted it's going to be a split face, where it's not just going to be a regular cinder block, you know, flat cinder block. So it's going to be a split face, I think he called it, where it's got some type of texture or design to it.

Mr. Droze: Okay. I think that covers my questions. Thank you.

Mr. Wilshaw: Thank you. Mr. Droze. Any other questions for Mr. Essa? Mr. Caramagno.

Mr. Caramagno: I do, I do have a couple questions. What is going to happen here different than what happens at your Plymouth property, Plymouth Township property, and your Redford properties?

Mr. Essa: Well, the Plymouth Township property, I'm still...all my plans are with the engineer, and I had a problem with that, because that site was contaminated, so I'm still working with EGLE. I never moved to refinish that one yet, I have a problem with Eagle. We got to resolve the environmental issue first. So that one I haven't updated, or nothing yet.

Mr. Caramagno: I see that there is a car wash there and repair shop in the front. How long have you owned that?

Mr. Essa: I've owned that for two and a half, maybe three years now, but I bought it in the condition that is. So, my plan was to renew that one and make it look good too, but that one's taken too long with Egle.

Mr. Caramagno: Are there any repair activities happening there?

Mr. Essa: Now? No, there's...no. I mean, yeah, I go...it's by appointment, so I only go there by appointment.

Mr. Caramagno: Okay, so you do repairs there?

Mr. Essa: Yes, but I don't do nothing to the buildings or anything.

Mr. Caramagno: Okay, so that's basically a non-operating site at this point.

Mr. Essa: Just by appointment. So very minimal.

Mr. Caramagno: Okay, and now your Redford site, what...how will that differ from this site?

Mr. Essa: Which Redford are you looking at? I have two in Redford. The one that I'm selling.

Mr. Caramagno: I'll tell you which one here. 24645 Plymouth Road.

Mr. Essa: 24645 Plymouth Road, that one is a family owned business, so it's not just me. That's my parents, my siblings, that's family-owned business. So, this other one's going to be myself. Plymouth is myself. That one there, that's a used car dealer and parts and auto repair and collision. So, we're not applying for all of that here. So, this one's gonna be strictly auto repair.

Mr. Caramagno: Okay, so the other property...it's got a variety of uses at it.

Mr. Essa: It's got multiple uses, correct. It's got used parts. Has used car dealer, auto repair and collision.

Mr. Caramagno: Okay, so you don't know how many cars you want to keep on this property. Said, maybe 10. Maybe more, depends how business is. Who will the onus be on to inspect this property to make sure there's a...if the number is six, who will the onus be on to make sure that there's not 20 cars jammed in this?

Mr. Essa: I'm sorry, what...

Mr. Caramagno: Who will be responsible for coming over there and count cars if we give you six and there's 20 jammed in there. It seems like a ordinance or inspection nightmare compared to what I saw at Plymouth Road down in Redford Township. Well, yeah, if it's anything even close to that, I got a huge problem with this.

Mr. Essa: Yeah, no, I understand. Again, that Plymouth Township, the Redford location that you're looking...you're not looking at the other Redford I own personally, 23510. You can take a look at that one, if you like.

Mr. Caramagno: That would have been nice to have that address before we got here tonight. You told me, 24645.

Mr. Essa: Well, that's because I told you I was...I'm in the process of selling the 23510, I'm actually...

Mr. Caramagno: What is it?

Mr. Essa: 23510

Mr. Caramagno: 23510 Plymouth Road.

Mr. Essa: Plymouth Road, correct? Yeah, that's Redford as well.

Mr. Uhazie: Is that this one?

Mr. Essa: No, no, this one he's talking about is my family business. Oh, yeah, this one here. Yeah. So that one there is, that one was myself as well, me alone. It's actually, you could probably see the listing of it for sale, and it's pending and it's sold. So that's what I expect this place to look like. I don't know if you can see the front view. You know, my building looks brand new and presentable, and it's not like the one that you see on 24645, I gave you that address as well because it's my family's I don't want to hide nothing. Now the one, the other one you see in Plymouth is...it's got four licenses: collision, auto parts, auto repair and used car dealer. So, this is not going to be anything like that at all. You could take a look at the one in Plymouth Township as well. You can see, I don't have vehicles in that. I have a acre and a half.

Mr. Caramagno: I did. I did look at Plymouth. I looked at both of them. Yes, because you gave me the addresses. And I In my travels, I checked in both Plymouth Township. We got a couple unlicensed cars sitting in the front yard. And again, that's prohibited in our potentially prohibited in our ordinance, and yet, there's two unlicensed cars sitting there. They look like they haven't moved, and my guess would be sometime.

Mr. Essa: Plymouth Road?

Mr. Caramagno: No Plymouth Township.

Mr. Essa: Yeah, there should be only one car, and it does move, but it's okay.

Mr. Caramagno: There's two. There's two. Neither one has a license plate on it. So anyhow, that's my concern. That's all.

Mr. Essa: I understand.

Mr. Wilshaw: Thank you. Mr. Caramagno, any other questions for our petitioner? We've exhausted the questions up here. Anything else that you'd like to tell us Mr. Essa before we move on?

Mr. Essa: No, I think I addressed everything.

Mr. Wilshaw: Okay, let's see if there's anyone in the audience wishing to speak on this item. Is there anyone wishing to speak for or against? Feel free to come to either one of these podiums, whichever one's more comfortable for you. We'll ask that you start with your name and address so we know who we are speaking with.

Jeff Nicholas 11563 Cardwell, Livonia, MI I have the property just south of the former Mickey Shorr. I do have mixed feelings on this. The building is a tough building to put a business in, because of what it is, and it's a very small piece of property. You've answered a lot of my questions tonight, and the board has as well. The wood privacy fence, I built that fence. That's my, I say my fence because I built it, but if he's going to put a six foot cement fence along there, that's better than my wood fence, you know, it's going to close it off. The one concern I have is we started out with zero cars outside, all the cars inside, and now it's gone up to potentially 10 cars outside. So, it evolved as the night went on, from zero to 10. I understand you got to have a few cars, and I wouldn't have any issues with three, four, five, maybe even up to six cars. I didn't see. I couldn't, yeah, this right here. so the back of the building, I can't, he wants asphalt or gravel there, and right now, that is grass, and then heading towards Cardwell is grass. So basically, from the west edge of the building, heading east, on the back side of the building, is all grass, right. Now, I would like that to be left grass, even though he's got a wall there. That's my living area in the backyard. Basically, even though I do use the whole backyard, the parking lot area doesn't bother me. That's always been a parking lot with Mickey Shorr. So, like I said, I do have some concerns about the noise. Mickey Shorr did have their noise, but for the most part, they were pretty respectful. I never did hear an air compressor run and Mickey Shorr, they really didn't have a use for one. So that does concern me that the air compressor would be running. Now I will say, if you follow through with all the plans to do the front face, the side, the shrubbery, the six-foot fence, it looks like a beautiful building. And that building is...you probably agree it needs updating. So as far as this business going in, I'm

50/50. I was against it coming in here tonight. I'm still not 100% for it, like I said 50/50. I just hope that if the city does approve this, that everything that was said tonight, the city follows through with it before they give them a permanent occupancy. And like I said, I would like that area to remain grass, that's my opinion, because that would give it a little bit more separation. And then my other concern is, I like the dumpsters being up front. I worry about where they're going to store the junk parts they take off vehicles, just not laying around in the parking lot. I'm sure they're going to have a scrap bin or something. The property is not that big, and they could get cluttered really fast. I think that the tow truck was the other issue. I have seen the tow truck there, and he is correct. It's a smaller tow truck. I think it's more based on, like a truck platform, but it's not something I don't think that anyone...I've talked to my neighbors, it's not something people want to see. So if he had it more, maybe up towards Plymouth Road to where the building was hiding it. Then, then it's not a site, but it looks like, if I'm correct, he wants to fence the whole property. Was that correct?

Mr. Wilshaw: That's correct.

Mr. Nichols: Okay, so he's gonna be hiding a lot of it as well. So, like I said, I came in here totally against it. You've kind of pushed me 50/50, I'm not 100% for it. And it's a tough, it's a tough building to occupy. You know, it's not a food restaurant. And he's, he's looking like he's gonna put a lot of money into this. So my biggest thing would be the noise, not being able to park anything on Cardwell, of course, you know, keep the residential, residential, and if I can make a suggestion on the hours nine to six, I think that would be a fair recommendation for me, at least. So, I think that covers it all. Thank you everybody for your time.

Mr. Wilshaw: Thank you, Mr. Nicholas, I know you wrote us a really nice letter as well, with a lot of thoughts, and you've expressed your thoughts tonight, which we appreciate. You know, we always like to know how people feel, if they're for or against, but also you've given a lot of suggestions too, of things that could be done. So we appreciate all your thoughts. So, thank you for coming tonight. Thank you. Anyone else wishing to speak on this item? Feel free to come forward. We have a couple folks, you can all come forward.

William Clark, 11369 Cardwell, Livonia, MI. I've kind of become the reluctant, unofficial spokesman for the residents on Cardwell Street and the surrounding area. It wasn't my intention, but it's just kind of, I

just kind of put my thoughts out online, that I was not too happy about this, that I didn't think it was a good idea, and some people reached out to me. I started a petition. I have 42 signatures, and I can attest that the majority, the vast majority, are from people who live on Cardwell or live in close proximity or live in the wider Livonia area. So, I think that's pretty significant. It's not as if there's one or two people, I can't say the whole road, I can't give you know, but it's, it's a significant number of people in the area who don't want this. So, I think, like, I just put together, like a, kind of a small...it's from me, but I think it kind of expresses the kind of the general feeling of where we're at. And so like, when you live in a busy, populated area, like you expect to hear noise, you expect trash cans, you expect car alarms, you expect dogs to bark. You know that's these are the things that go along with living in it, in a busy neighborhood. And this is admittedly a commercial lot, and it is admittedly a lot that was used previously for Mickey Shorr. Now I wouldn't say, I wouldn't put it in the bracket, that it was anywhere close to being like an auto shop, which has been proposed. But it's not...it's a commercial lot that's in a wholly residential area, and it's a very busy, very vibrant community. You have Cardwell street on both sides, but you also have a motel with the bedrooms are 10 yards walk from where this property is, and the kind of noise I think that will emanate from a very heavy, machine orientated business like this is not something that we really want to hear or put up with. I don't think we need to do any tests or investigations or study to know like nomadic drills, service bays, loading doors. And I think the most, I think the biggest worry for people on Cardwell is the tow truck scenario. Nobody wants tow trucks. They look bad and they're noisy. There's a kind of a perception that goes with tow trucks and them. And we're not too happy about that. And I think the parking situation is also a big bone of contention. The pictures here and the plans we see, I don't think it does just as if you actually walk up to the side, it is tiny and it's very hard to visualize. I know we're saying, like, you know, we're going to keep two or three cars overnight, but now it's gone up to 10, and you can't park on Cardwell. The only place for surplus parking is...sorry, you can't park on Plymouth. The only space for surplus parking is Cardwell, which is a residential street. Parking is tight there as it is, and you're lucky sometimes to be able to park outside your house. And it's kind of worrying that there's a potential that there could be the cars. I'm not saying this gentleman would do that, but the potential that that could happen is slightly worrying. I just don't think this site is I want, I want to let it be known as well. Nobody is anti-business. Nobody's saying we want empty buildings or, you

know, not in our backyard sort of thing. We do want to see this site used. We want to see, you know, something to be put in here, but to give some, I think, on a wider kind of zoning sort of prospect is...I counted eight auto repair businesses on a half mile stretch on Plymouth Road. There's not a huge...no one's crying out for an auto shop on Plymouth Road. It's a sea of auto shops. And I think there's like, a dozen auto-related businesses on Plymouth and I think that the very least that could happen is that these established businesses that have been there for a long time could potentially see, you know, a loss of business to what they have established already. And the worst-case scenario, I think that we'll see a business fail. And I don't think it's, you know, a good omen for this council or for us as a community to green light businesses that we know have the potential to fail. And I just say, like to make it clear, like, you know, again, I just want to reiterate, it's not in our backyard. It's not as trying to be snobby or, you know, or we understand that when you live in a busy area like this, that there's going to be noise and so on. We just think that it's too much, and it's a lot for us to kind of...we don't want to see the values of our of our property, go down. That's probably the big worrying concern. So if you want the petition, I can, I can hand it up.

Mr. Wilshaw: If you'd like to hand it over to Ms. Reece after you're done, then we really appreciate that. Thank you.

Mr. Uhazie: Mr. Chairman, while he hands it, I just want to clarify one thing that was discussed earlier. Reviewing the ordinance, just so we're all clear, storage of what is prohibited on site is storage of undamaged or disabled vehicles. The vehicles and any repairs must be done inside. This Commission and City Council can dictate how many cars that are awaiting repairs can be stored outside. That's the clarification. So, they couldn't just put junk cars out there, but they can put cars that are waiting to be stored outside. I just want to clarify that.

Mr. Wilshaw: And as was noted earlier, we can determine the number of those vehicles which we haven't done yet. We've...as some of the folks in the audience have pointed out, it's by default zero, and petitioners asked for 10, and we'll see where this lands, if we choose something between zero and 10, so yet to be determined. But thank you for the comments. There's one more gentleman, I believe, wishes to speak. Good evening, sir.

Steve Alexander, 9919 Deering, Livonia, MI. So I volunteer as a President of Plymouth Circle Civic Association. I promised our residents I

would come up and share some of their quick thoughts. But also, I'll just follow that with the recap of what you guys already showed and I think it's fantastic. So, in short, what you've heard, in addition, what you've heard here, is the notion that, you know, as we build businesses on Plymouth Road, ideally we want residents to want to go to those businesses, right? So, like, can we attract more of things that we're going to want to go to so, like, restaurants and such, right? Clearly, this parcel is not going to be a restaurant or any place that you would go after work, right? So it's... from what we heard tonight, it has to be automotive or something like that. It's just what it is. So, I'm actually really encouraged by what you all showed and shared tonight, especially with the trash. I know early we said, one of the concerns was smells or like, Well, why would there be a concern for smell when there's automotive? But I think really that concern for smell was the trash, right? So, most businesses have their trash in the very back, right? So that would be against Mr. Nichols house, which would not be awesome. So if it's near the front and a container where that smell isn't caring, it's your neighborhood. I think that is fantastic. So, I love what the petitioner presented today. We can move forward with making sure the trash is located, as he suggested I would. I would deeply appreciate it. I'm sure residents would do Thank you.

Mr. Wilshaw: Thank you, Mr. Alexander, and we know he's official because he's got a coat that matches his association. That's really very good. Anyone else wishing to speak on this item, for or against? Go ahead, sir.

Allen Bates, 27076 Meadowbrook, Livonia, MI. You had asked the question...I own the building next to it. He hasn't asked me, but a wall will be fine.

Mr. Wilshaw: So, just to clarify, you're the business west or east?

Mr. Bates: West.

Mr. Wilshaw: West. Okay.

Mr. Bates: Actually, the two buildings west.

Mr. Wilshaw: Okay, very good. There was some discussion at our study meeting, because we see that the property line, at least as indicated on these surveys, appears to be kind of halfway through the middle of your driveway.

- Mr. Bates: Yeah, it's going to stay there?
- Mr. Wilshaw: It is what it is, but it seems like it...
- Mr. Bates: It seems like it was an easement. That's when I bought it. It kind of seemed like half and half.
- Mr. Wilshaw: Yeah, we're not going to make him do anything to that would impede your driveway.
- Mr. Bates: I appreciate that. That would be good because it's rent. I'm just the owner, its rented.
- Mr. Wilshaw: Okay, very good. Thank you, sir. Appreciate your comments. All right, we've heard from everyone in our audience. I don't believe there's anyone left to speak. So, Mr. Essa, would you like to come up and address anything that you heard? Again, we don't create debates between people, but we do want to give you an opportunity to address any concerns or issues that you may be able to resolve.
- Mr. Essa: Of course. Personally, the way the building is going to look afterwards I think it will improve people's home values, as opposed to how it looks right now. I think it's really affecting their home values as it is. There's no windows and it looks like a prison. I would just like to say, and I'm not trying to be offensive or anything here, but the whole point of putting the fence is to leave some cars back there, and they will not be junk cars. I can assure you. You can come out and ticket me, you know, tickets or, you know, violations every day. I don't, you know, there's not going to be any junk cars back there of that I assure you. The whole point of spending that kind of money on a wall like that is to be able to have at least 10 cars back there. If all the cars have to come in the building, or four or five, which I can manage somewhere, then there's no reason to build this wall. We'll continue with all the other plans, but the wall itself...that's a lot of money to build on a masonry wall. As far as street. I'm never going to park in the street. Everything is there's no off-site, you know, parking. There's ample parking for what I'm going to do, you know, for my customers and myself. So, there's no one ever has to worry about me parking on Plymouth Road or Cardwell street or the adjacent property as well.
- Mr. Wilshaw: Okay, all right. Is there any other questions from any of our commissioners for our petitioner before we finish? Mr. Ventura.

- Mr. Ventura: So the topic of the compressor came up again during the comments. Can you clarify how often this compressor is going to be used that you're going to have?
- Mr. Essa: Well, let me say Mickey Shorr does have a compressor in there, I assure you. All of my tools are electric tools, electric impact drills, whatever. The only equipment I would have in there that uses the compressor is the tire machine itself. And if I have to air up tires or blow some air for some reason. How often? I wouldn't say too often.
- Mr. Ventura: So, this is not a compressor that runs the whole time you're open?
- Mr. Essa: No, no, not at all. It'll probably turn on once a week, to be honest. It depends on how many tires I do, to be honest. Now, the old hoist that were coming out of the ground were in use then, yeah, it'll be kicking on every time you go to lift up the car, but those hoists are not going to be used, so I'm going to put electric above ground hoist so the only time that compressor will come on is if you're actually physically using the tire machine or airing up some tires, and it has to get low enough to kick back on. So, you have to be using a lot of air for it to kick it back on.
- Mr. Ventura: Thank you for that clarification.
- Mr. Wilshaw: Thank you. Mr. Ventura. Mr. Long,.
- Mr. Long: So, I want to understand the car storage aspect better than I than I do. You're doing small repairs like the like a Tuffy muffler type of thing?
- Mr. Essa: Correct.
- Mr. Long: So brakes and things like that. People work. They drop their car off in the morning, they leave it there, but they come back and get it at the end of the day, right? At least, most of them are going to so I mean, how many are you going to really need to store overnight? I mean, if we gave you the ability to have 10, is there really going to be 10 there? Are you just going to one or two there overnight? How does that work?
- Mr. Essa: I mean, I would like to have the 10, just in case I do reach that threshold where I do. Again. I'd rather do the maximum than the minimum. So, when I told you nine to six, I said, let's say eight to seven, just in case anyone ever goes in early, or anyone has

to stay late. But generally, my hours are nine to six. So I would always ask for the maximum and hope I use the minimum. Now, there may never, there may be, you know, months. I mean, the gentleman, Sam, said he looked at Plymouth. I only have two vehicles out there. I have an acre and a half. There's only, you know, well, there's only one, but there were two. So, you know, are there going to be vehicles there? Am I going to use 10 at all times? I don't know, but I would like to say that just so it's on record.

Mr. Long: Sure, that makes sense to me. I mean, I guess...with the shop with three bays, and you know your business, I don't know the business model that well. I just don't know how many you would need to have, and how long they would have to be there, again. So, if you're doing breaks to one, a few hour job, right? And it shouldn't take them, you know, I could see where it was there, maybe there over one night, but it shouldn't be there more than one night, right?

Mr. Essa: Well, I mean, I'm, I can do the zero cars.

Mr. Long: No, no. I hear you. I've heard that, and I understand, again, I'm just trying to figure out the duration of it, as well as the need for it.

Mr. Essa: I don't know, but I...you know. I don't want to tell you anything, you know, but there's the oil change in that (inaudible) down on Plymouth, if you drive by right now, I'm sure they have...I want to do it the right way, and I'm letting you know.

Mr. Long: I want you to be set up to succeed, if we are going to approve this business there. Again, I'm just trying to understand the business model. Thank you.

Mr. Essa: No problem. Thank you, Glenn.

Mr. Wilshaw: Mr. Ventura.

Mr. Ventura: Thank you. I want to follow up on Mr. Long's comments, and so as I'm looking at the site plan that Mr. uhazie has up on the screen, I count seven parking places behind the fence west of the building. Is that correct?

Mr. Essa: Well, on that plan, it shows that. I don't know why my engineer doesn't do but if you remember, I was telling you guys last

week, currently there's 14 parking spots there. So even if I don't pave and I leave it grass as the neighbor...

Mr. Ventura: My point is, you already have seven places behind the fence.

Mr. Essa: I think there's more than that right now on the plan, yes.

Mr. Uhazie: There's seven along the west.

Mr. Ventura: And so if we were to allow you to have 10, you could put three spaces exactly behind the building. And taking into consideration the comments of the gentleman whose house is to the south of you, you could leave the majority of the grass behind the building and still have your tent outside parking spaces and go back to what was designed in cooperation with the planning staff, correct?

Mr. Essa: Okay, I think thinking about what Patrick was saying, so I don't mess with any of the storm water or anything. I'll leave the grass there if need be. But again, I didn't see it, so I have to go back and look if there is.

Mr. Ventura: Thank you. Thank you very much.

Mr. Wilshaw: Thank you, Mr. Ventura. Any other questions? Just one for you, sir. In regard to scrap storage, you're going to have tires and other things that are going to come off vehicles. Where are you going to store that?

Mr. Essa: You know, I spoke with Jacob. He never got back to me. I was asking him about those storage containers. He was going to ask somebody, I don't know who exactly, and see if we can put one on there, because I was telling him the same thing, that there's really no storage. So, I guess, so until we get an update, I don't know.

Mr. Uhazie: We still have to make sure with Inspection, but I doubt that will be a possibility.

Mr. Essa: So you're thinking no?

Mr. Uhazie: I don't think they would allow that.

Mr. Essa: Yeah, so that I don't know, then, right now, I might get a...I have a dump trailer that I can bring and leave it back there and throw everything in the dump trailer. It's like, I'll say, four feet and then

every time it gets full, I can take it to the scrap yard and scrap it. I don't know. I guess we'll cross the bridge when we get there. I was hoping I can get the container, but we'll see what happens.

Mr. Wilshaw: Okay, well, that's...it's a very important topic of consideration for us to think about, and issue that residents raised, and I think it's a very valid one. So, I'm glad that you let us know where you stand on that so far. Thank you.

Mr. Essa: Sure, no problem. Thank you.

Mr. Wilshaw: Anyone else with any questions? If not, I'm going to close the public hearing, and a motion is in order

On a motion by Ventura, seconded by Dinaro, and unanimously adopted, it was

#02-03-2025 **RESOLVED**, That pursuant to a Public Hearing having been held by the City Planning Commission on February 4, 2025, on Petition 2025-01-02-01 submitted by Eman Enterprises LLC requesting waiver use approval pursuant to Section 6.06 of the City of Livonia Zoning Ordinance, as amended, to redevelop an existing commercial site, including adding service bays, renovating the interior and exterior of the building and operating an automobile repair facility at 27819 Plymouth Road, located on the southwest corner of Plymouth and Cardwell Street in the Northeast ¼ of Section 34, be approved subject to the following conditions:

1. That the Site Plan identified as Sheet No. A3.0, received January 31, 2025, prepared by Yahana Design & Consulting, is hereby approved and shall be adhered to;
2. That the Elevation Plan identified as Sheet No. A2, received January 31, 2025, prepared by Yahana Design & Consulting, is hereby approved and shall be adhered to;
3. Landscaping tree species shall be selected to the satisfaction of the Planning Department and shall conform with the ordinance requirements which may include the existing trees in the Plymouth Road right of way;
4. The parking lot shall be repaired and restriped as necessary. Parking spaces shall be 10' wide and 20' deep and double striped;

5. The van-accessible barrier-free parking space shall be sized, signed, and marked in accordance with the Michigan Barrier-Free Code;
6. An enclosure of sufficient height to completely screen the *dumpster* is required on three (3) sides of the waste receptacle, with a solid gate on the fourth side. The height of the *enclosure* must be not less than six (6) feet or at least one (1) foot above the height of the *dumpster*, whichever is greater. The *enclosure* gates shall be of solid panel steel construction or durable, long-lasting solid panel fiberglass and, when not in use, closed at all times. The *enclosure* must be constructed of the same or compatible material and colors as the principal building in terms of texture and quality;
7. A variance from the Zoning Board of Appeals would be required for the proposed 6-foot-tall vinyl fencing proposed on the east, west and south sides of the enclosed parking area;
8. That all light fixtures shall not exceed twenty feet (20') in height and shall be aimed and shielded to minimize stray light trespassing across property lines and glaring into adjacent roadways;
9. Any vehicles left on the premises overnight must be in operable condition and not junk vehicles, and must be stored inside the building whenever practicable, or parked in designated parking spaces as shown on the approved site plan, with a maximum of 10 vehicles located outside. Seven parking spaces shall be on the existing paved parking area along the west property line, and three of which shall be located as close as practicable to the south wall of the existing building, so that the existing grass area south of the building is maintained to the greatest possible extent, to the satisfaction of the Inspection and Planning Departments.
10. That on-street parking of vehicles along Cardwell Street is prohibited and no vehicles shall be parked between the building and Cardwell Street right-of-way.
11. That there shall be no outdoor storage of auto parts, equipment, scrap material, waste petroleum products,

junked, unlicensed or inoperable vehicles, or other similar items in connection with this operation, and the overhead doors, when not in use for vehicles entering or exiting the service facility, shall always be closed;

12. That only conforming signage is approved with this petition, and any additional signage shall be separately submitted for review and approval by the Zoning Board of Appeals;
13. That no LED lightband or exposed neon shall be permitted on the site including, but not limited to, the building or around the windows;
14. The overall average illumination level for the parking lots shall be 1.0- foot candle as provided under Section 7.22 of the Zoning Ordinance;
15. That unless approved by the proper local authority, any type of exterior advertising, such as promotional flags, streamers or sponsor vehicles designed to attract the attention of passing motorists, shall be prohibited;
16. That the specific plans referenced in this approving resolution shall be submitted to the Inspection Department at the time the building permits are applied for; and
17. Pursuant to Section 13.13 of the Livonia Zoning Ordinance, this approval is valid for a period of one year only from the date of approval by City Council, and unless a building permit is obtained, this approval shall be null and void at the expiration of said period.

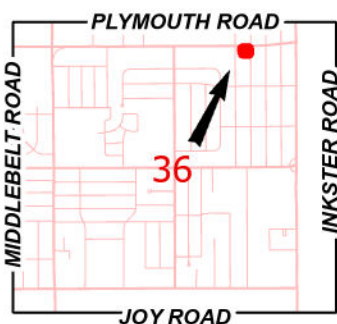
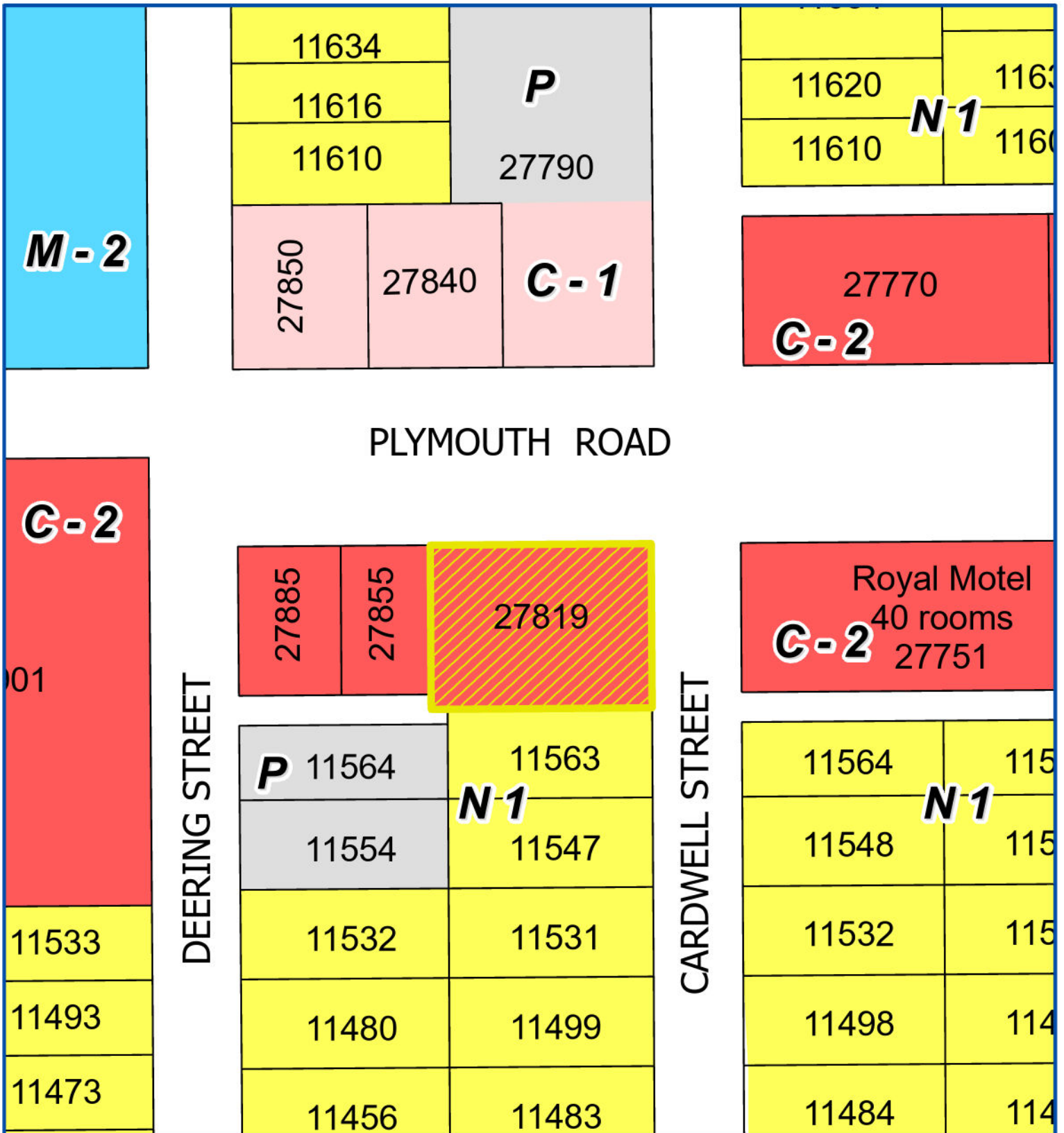
FURTHER RESOLVED, That notice of the above hearing was given in accordance with the provisions of Section 13.13 of Livonia Zoning Ordinance, as amended.

Mr. Wilshaw: Is there any discussion?

A roll call vote on the foregoing resolution resulted in the following:

AYES:	Dinaro, Droze, Ventura, Bongero, Long, Wilshaw
NAYS:	Caramagno
ABSENT:	None
ABSTAIN:	None

Mr. Wilshaw, Chairman, declared the motion is carried and the foregoing resolution adopted. It will go on to the City Council with an approving resolution.



Address & Zoning Map

Petition 2025-01-02-01
Eman Enterprises
27819 Plymouth Road



Not to Scale



City of Livonia
Planning Department

PLYMOUTH ROAD

CARDWELL STREET



Aerial Map

Petition 2025-01-02-01
Eman Enterprises
27819 Plymouth Road



Not to Scale



City of Livonia
Planning Department

INSERT STAFF REPORT

PLANNING COMMISSION STAFF NOTES

Prehearing

ITEM 1

Petition 2025-01-02-01 submitted by Eman Enterprises LLC requesting waiver use approval pursuant to Section 6.06 of the City of Livonia Zoning Ordinance, as amended, to redevelop an existing commercial site, including adding service bays, renovating the interior and exterior of the building and operating an automobile repair facility at 27819 Plymouth Road, located on the southwest corner of Plymouth and Cardwell Street in the Northeast ¼ of Section 34.

January 28, 2025 Study Meeting:

The site is located at the southwest corner of Plymouth Road and Cardwell Street. The petitioner is seeking waiver use approval to renovate and operate an automobile and light truck (up to one (1) ton) repair facility, which is regulated under Section 6.06 of the Zoning Ordinance, as amended. Under Section 6.06 all vehicles left at the facility for repair overnight must be stored within the building and that absolutely no dismantled, damaged or unlicensed vehicles shall be permitted on the site. The ordinance also states that the total number of vehicles proposed to be stored shall be subject to recommendation by the Planning Commission and approved by the City Council.

The petition parcel is zoned C-2, General Business, which treats automobile and light truck repair facilities as a waiver use pursuant to Section 6.06 of the Zoning Ordinance. The site was previously approved for a light auto repair facility in 1971 and again in 1982 but the use never went into operation. The building was previously occupied by Micky Shorr Electronics, who was granted approval to expand the existing building in 1987. The site currently sits vacant.

Properties across Plymouth Road to the north and northwest are commercial properties zoned C-1 (Local Business) while the northeast is zoned C-2 (General Business). To the east, across Cardwell Street, is the Royal Motor Inn which is zoned C-2. West of the site is a small commercial building, zoned C-2. The Thomas Elliot Subdivision is located south of the property and is zoned N1 (Neighborhood).

The subject property is 0.37 acre in area with 148 feet of frontage on Plymouth Road and 110 feet along Cardwell Street. The existing building measures approximately 2,049 square feet and is positioned near the middle of the site closer to the east property line.

Two (2) driveways provide access to the site: one (1) on Plymouth Road and one (1) on Cardwell Street.

Currently the building has two (2) rolling overhang doors, the first located on the north wall and the other located on the east face. The petition included Elevation Plans which shows three (3) service bays for vehicular access to the building. Two (2) ten foot (10') overhead doors would be located along both the north side of the building and the one (1) would be on the east side would remain. Each bay would be accessible by means of a large overhead door. The exterior finish would consist of burnished ground face concrete blocks and horizontal rain screen siding. The existing stucco veneer would be replaced by a brick veneer on the north and east walls. The canopy, aluminum fascia and all associated framings would be removed and replaced with new aluminum or stone coping and fascia at the parapet. All the exiting windows and doors would remain. On the south and west elevations exterior brick/cmu walls will be patched and repaired.

The parking requirement for automobile and truck repair facilities is two (2) spaces for each workstation plus one (1) space per employee. The building would have a total of three (3) workstations and up to three (3) employees; thus, the minimum required number of parking spaces would be nine (9) (3 bays x 2 + 3 employees). The site plan shows three (3) parallel parking spaces next to the Plymouth Road Right of Way and an additional (8) parking spaces along the western property line. The site has a total of 11 parking spaces stripped at nine feet (9') by at twenty feet (20'). All regular spaces are required to be ten feet (10') wide by twenty feet (20') in length.

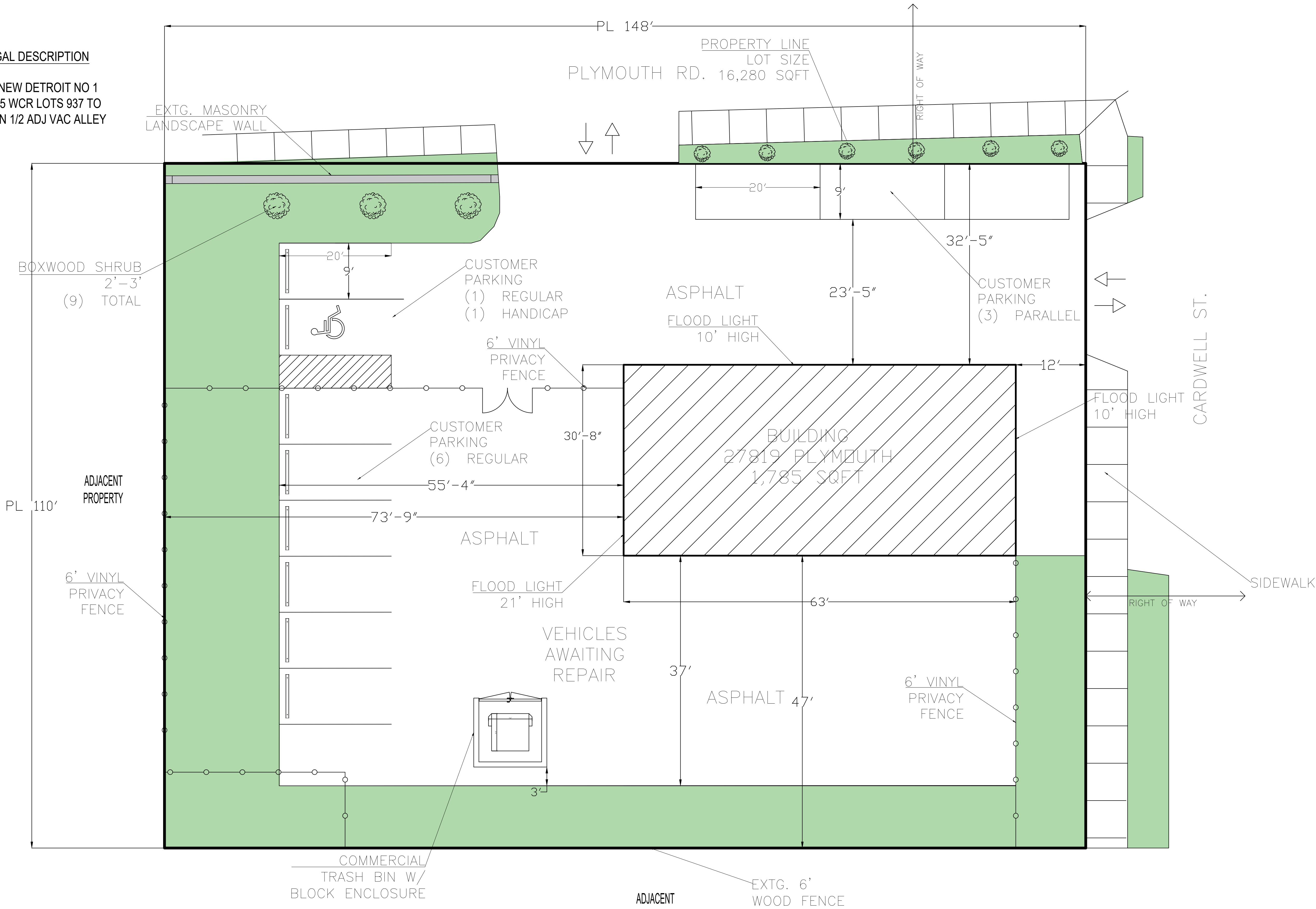
A dumpster is shown with a block enclosure located at the rear of the site between the parking and the building. No additional information on the dumpster enclosure has been provided.

No landscaping plan was provided with this petition, but the site plan appears to remove the existing tree and shrubbery behind the PRDA fencing and replace it with three (3) Boxwood Shrubs. An additional six (6) Boxwood Shrubs are shown next to the Right of Way on Plymouth Road. The Zoning Ordinance requires the following on Plymouth Road: Three (3) deciduous or evergreen trees, two (2) ornamental trees and 24 shrubs; and on Carwell Street: Two (2) deciduous or evergreen trees, one (1) ornamental trees and ten (10) shrubs.

No signage plans were submitted with this petition.

PROPERTY LEGAL DESCRIPTION

36B937 TO 943 NEW DETROIT NO 1
T1S R9E L62 P85 WCR LOTS 937 TO
943 INCL ALSO N 1/2 ADJ VAC ALLEY



1 SITE / LANDSCAPE PLAN SKETCH
1/8" = 1'0"

General Notes

NOT FOR CONSTRUCTION

ALL EXISTING CONDITIONS AND
DIMENSIONS
SUBJECT TO FURTHER VERIFICATION
IN FIELD BY ANY FUTURE
ARCHITECT, ENGINEER AND/OR
CONTRACTOR

DESIGN PROVIDED BY OWNER

CONTRACTOR/OWNER IS SOLELY
RESPONSIBLE TO COMPLY WITH ALL
LOCAL BUILDING CODES,
REGULATIONS & STANDARDS, ZONING
ORDINANCES AND ADA COMPLIANCE

(10) TOTAL PARKING SPACES
INCLUDING (1) HANDICAP BASED ON
AT LEAST 2 SPACES PER OH DOOR
BAY PLUS (1) FOR EACH EMPLOYEE

4,200 SQFT OF LANDSCAPING
PROVIDED, > 25% OF TOTAL SITE

1	SKETCH	12/15/24
No.	Revision/Issue	Date

Firm Name and Address

YAHANA DESIGN & CONSULTING
DEARBORN HEIGHTS, MI

Project Name and Address

27819 PLYMOUTH,
LIVONIA, MI 48150

Project

Date
12/15/2024

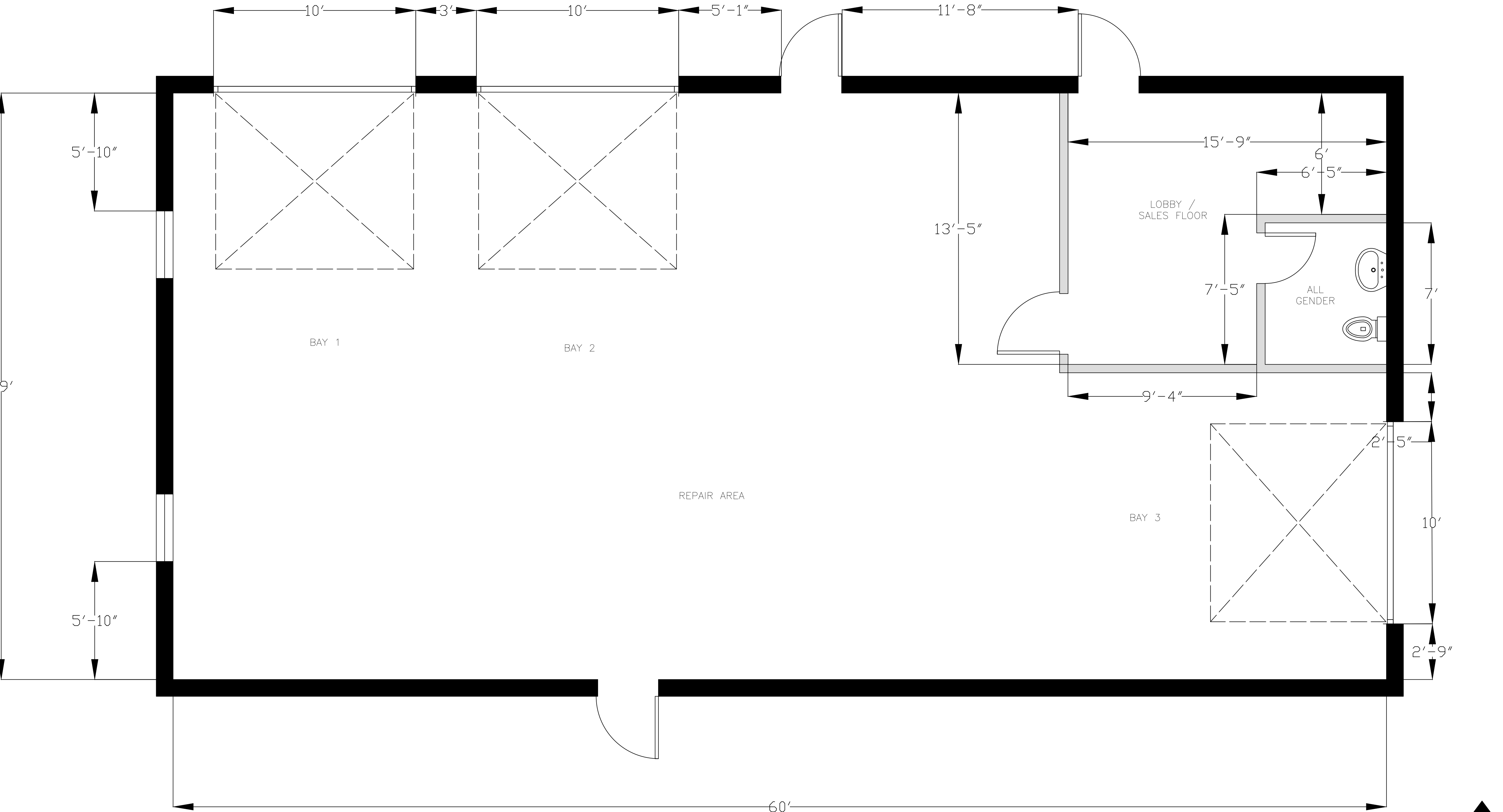
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Sheet

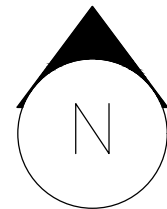
A3.0

PROPERTY LEGAL DESCRIPTION

36B937 TO 943 NEW DETROIT NO 1
T1S R9E L62 P85 WCR LOTS 937 TO
943 INCL ALSO N 1/2 ADJ VAC ALLEY



1 EXISTING LAYOUT SKETCH
3/8" = 1'0"

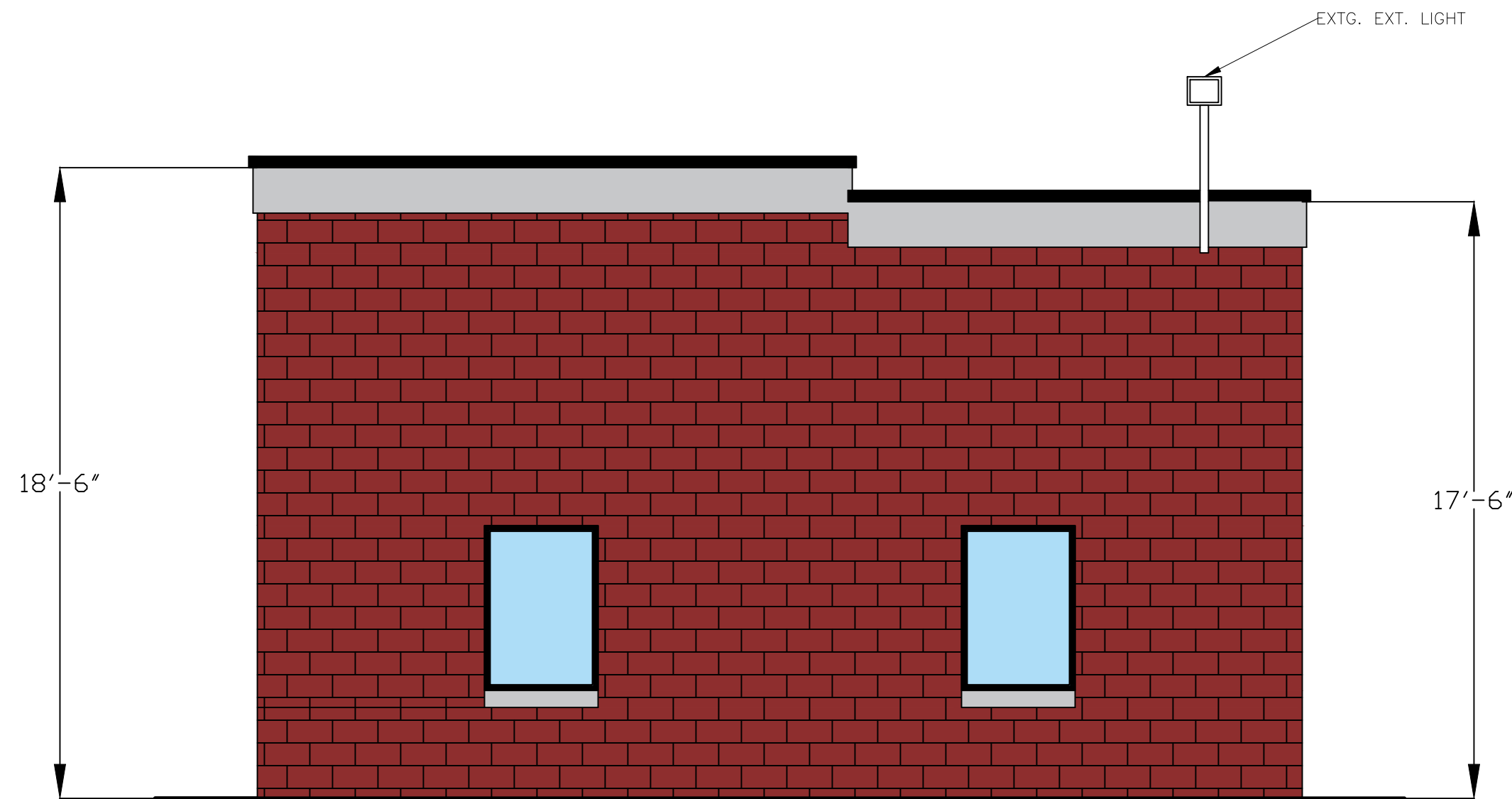


General Notes		
NOT FOR CONSTRUCTION		
ALL EXISTING CONDITIONS AND DIMENSIONS SUBJECT TO FURTHER VERIFICATION IN FIELD BY ANY FUTURE ARCHITECT, ENGINEER AND/OR CONTRACTOR		
DESIGN PROVIDED BY OWNER		
CONTRACTOR/OWNER IS SOLELY RESPONSIBLE TO COMPLY WITH ALL LOCAL BUILDING CODES, REGULATIONS & STANDARDS, ZONING ORDINANCES AND ADA COMPLIANCE		
1	SKETCH	12/15/24
No.	Revision/Issue	Date

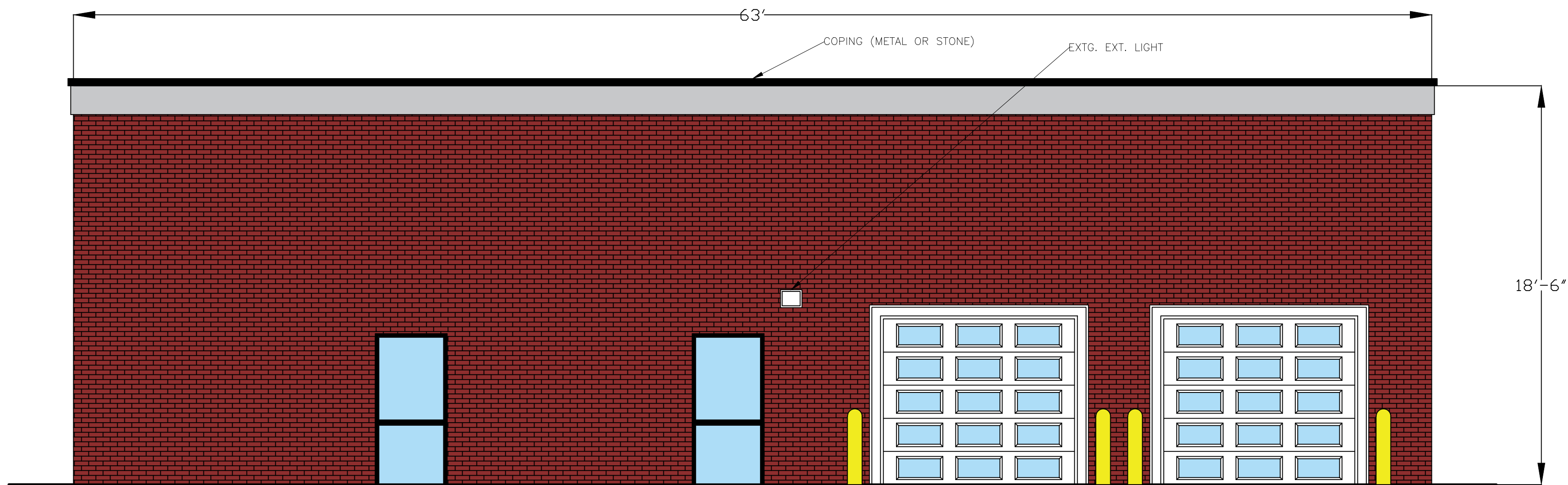
Firm Name and Address
YAHANA DESIGN & CONSULTING
DEARBORN HEIGHTS, MI

Project Name and Address
27819 PLYMOUTH,
LIVONIA, MI 48150

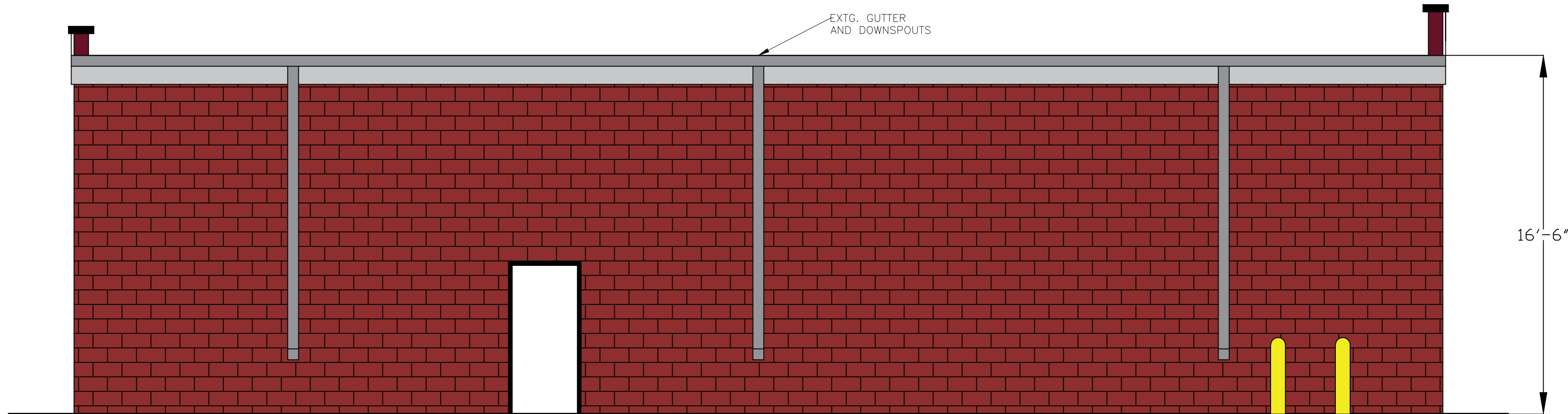
Project	Sheet
Date 12/15/2024	A1.0
Scale 3/8" = 1'0"	



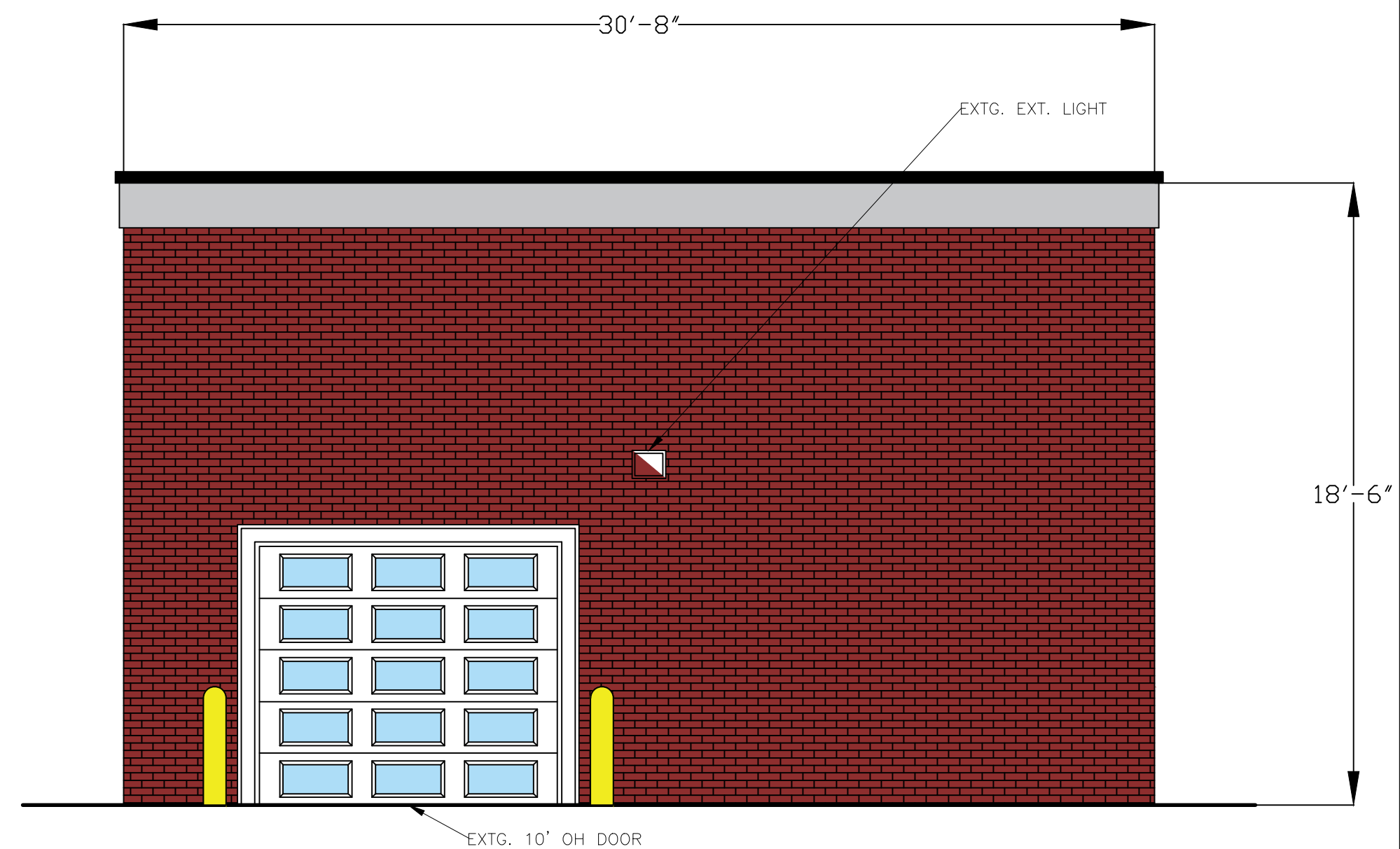
1 WEST ELEVATION SKETCH
1/4" = 1'0"



2 NORTH ELEVATION SKETCH
1/4" = 1'0"



3 SOUTH ELEVATION SKETCH
1/4" = 1'0"



4 EAST ELEVATION SKETCH
1/4" = 1'0"

PROPERTY LEGAL DESCRIPTION

36B937 TO 943 NEW DETROIT NO 1
T1S R9E L62 P85 WCR LOTS 937 TO
943 INCL ALSO N 1/2 ADJ VAC ALLEY

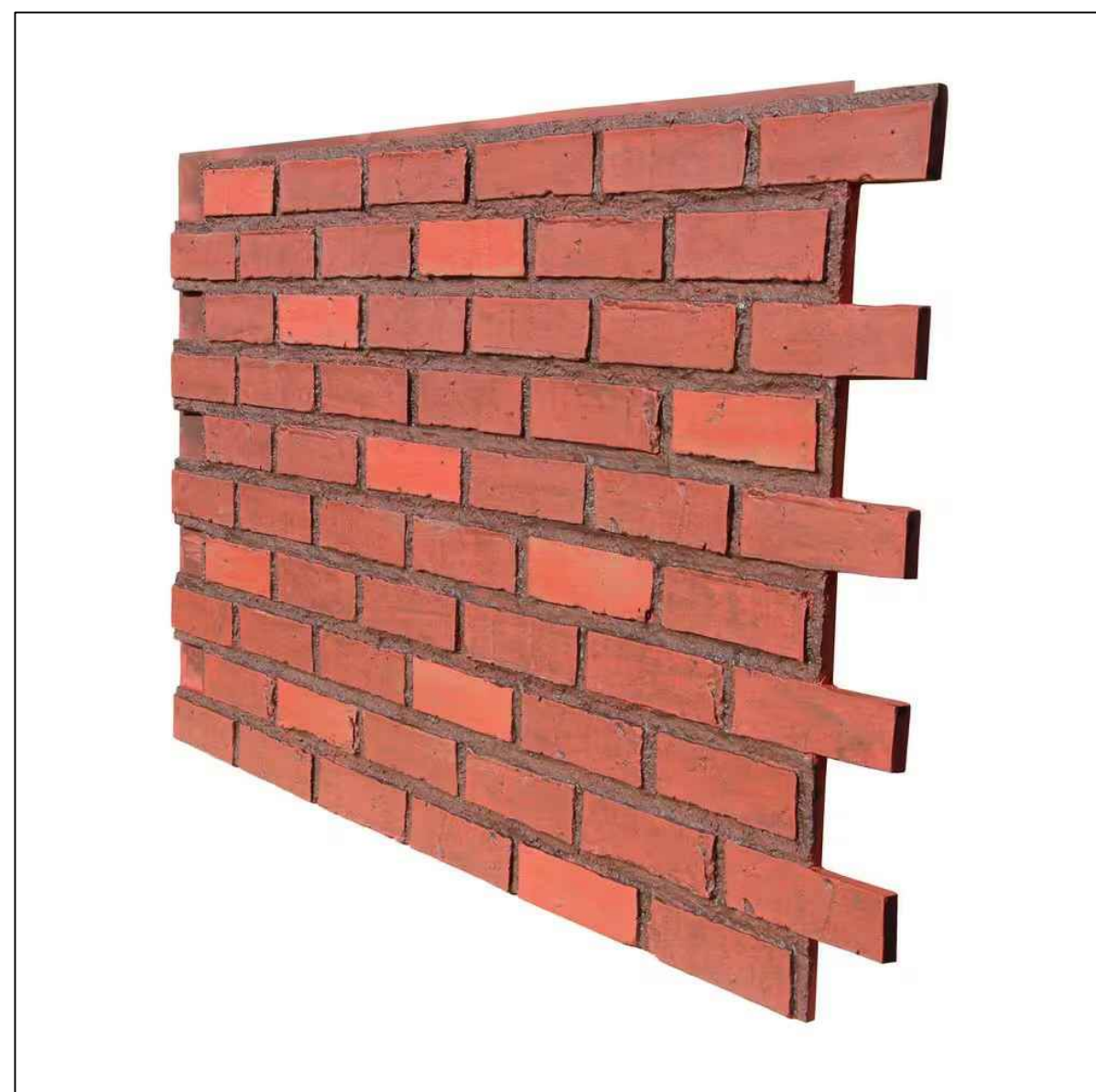


IMAGE 1

SCOPE OF WORK PROVIDED BY OWNER

NORTH AND EAST ELEVATIONS:

1. REMOVE EXISTING EXISTING STUCCO VENEER - REPLACE WITH BRICK VENEER, ENTIRE FACADE. SEE IMAGE 1
2. REMOVE CANOPY AND ALUMINUM FASCIA AND ALL ASSOCIATED FRAMING
3. NEW ALUMINUM OR STONE COPING AND FASCIA TO BE INSTALLED AT PARAPET,
4. ALL EXISTING WINDOWS, LINTELS AND DOORS TO REMAIN. NEW TRIM, FLASHING, ETC. TO BE INSTALLED
5. NEW 10' OH DOOR TO BE INSTALLED AT EXISTING LINTEL HEADER PER DRAWING
6. NEW MAN DOOR WITH ASSOCIATED HEADER AND FRAMING PER DRAWING

SOUTH AND WEST ELEVATIONS:

1. PATCH AND REPAIR EXISTING EXTERIOR BRICK/CMU WALLS
2. FINISH PAINT WITH EXTERIOR GRADE MASONRY PAINT
3. NEW ALUMINUM COPING TO BE INSTALLED AT PARAPET
4. EXISTING GUTTER AND DOWNSPOUT TO REMAIN

General Notes

NOT FOR CONSTRUCTION

ALL EXISTING CONDITIONS AND
DIMENSIONS
SUBJECT TO FURTHER VERIFICATION
IN FIELD BY ANY FUTURE
ARCHITECT, ENGINEER AND/OR
CONTRACTOR

DESIGN PROVIDED BY OWNER

CONTRACTOR/OWNER IS SOLELY
RESPONSIBLE TO COMPLY WITH ALL
LOCAL BUILDING CODES,
REGULATIONS & STANDARDS, ZONING
ORDINANCES AND ADA COMPLIANCE

1	SKETCH	12/15/24
No.	Revision/Issue	Date

Firm Name and Address

YAHANA DESIGN & CONSULTING
DEARBORN HEIGHTS, MI

Project Name and Address

27819 PLYMOUTH,
LIVONIA, MI 48150

Project	Sheet
Date 12/15/2024	A2.0
Scale 1/4" = 1'0"	

CORRESPONDENCE

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

TODD J. ZILINCIK, P.E.
CITY ENGINEER

DAVID W. LEAR, P.E.
ASST. CITY ENGINEER



MAUREEN MILLER BROSNAN
MAYOR

DONALD R ROHRAFF
DIRECTOR OF PUBLIC WORKS

12973 FARMINGTON ROAD
LIVONIA, MICHIGAN 48150
(734) 466-2571
FAX: (734) 466-2195

January 16, 2025

Mr. Jacob Uhazie
Assistant Planning Director
City of Livonia

Re: Petition 2025-01-02-01 – #27819 Plymouth Road

Dear Mr. Uhazie:

In accordance with your request, the Engineering Division has reviewed the above referenced petition. We have no objections to the proposed waiver use at this time, but would like to note the following items:

1. The subject parcel is assigned the address of **#27819 Plymouth Road**. Should additional addresses be needed, the Owner will need to contact this Department once approvals have been obtained.
2. The existing parcel is currently serviced by public sanitary sewer and water main. The submitted drawings do not include any proposed utility information or calculations, so we cannot comment on any proposed impacts to the existing systems, but we do not believe the proposed usage will adversely affect the existing utilities.

Should alterations to the existing services be required, the owner shall submit drawings to this department to determine if permits will be required.

3. Although the drawings do not indicate any future utility information, it should be noted the any proposed re-development other than building renovations will be required to provide storm water improvements and detention per the Wayne County Stormwater Ordinance.
4. Any disturbances with the Plymouth Road right-of-way will require permits through the Michigan Department of Transportation, including drive approach and sidewalk removals and placements.

To: Mr. Jacob Uhazie
Re: Petition 2025-01-02-01 – 27819 Plymouth Road

January 16, 2025
Page 2

Should you have any additional questions on this matter, please feel free to contact myself at (734) 466-2608 or the City Engineer, Mr. Todd Zilincik at (734) 466-2561. If you would prefer, you can e-mail either of us at dlear@livonia.gov or tzilincik@livonia.gov.

Sincerely,



David W. Lear, P.E.
Assistant City Engineer

cc: 2025 Petition File

DEPARTMENT OF PUBLIC SAFETY
LIVONIA FIRE & RESCUE

ROBERT JENNISON
FIRE CHIEF



MAUREEN MILLER BROSNAN
MAYOR

14910 FARMINGTON ROAD
LIVONIA, MICHIGAN 48154-5419
734-466-2444
734-466-2082 fax

DATE: January 31, 2025
TO: Scott O. Miller, Planner IV
FROM: Livonia Fire Prevention Division
SUBJECT: **Petition 2025-01-02-01 27819 Plymouth Rd.**

This office has reviewed the site plan submitted in connection with a request to renovate a commercial building on the property located at the above referenced address.

We have no objections to this proposal with the following stipulations:

Evaluation for **possible** suppression system and fire alarm installation due to vehicles that are EV.

A further detailed plan review will take place when this division receives an official plan set.

Sincerely,

Brian Kukla

Brian Kukla
Fire Marshal

**DEPARTMENT OF PUBLIC SAFETY
DIVISION OF POLICE**

THOMAS GORALSKI
CHIEF OF POLICE



MAUREEN MILLER BROSNAN
MAYOR

15050 Farmington Road
Livonia, Michigan 48154-5499
(734) 466-2470
FAX: (734) 261-2265

January 17th 2025

Mr. Scott Miller
City of Livonia Planning Dept
33000 Civic Center Drive
Livonia, MI 48154

Re: Petition 2025-01-02-01 - 27819 Plymouth Road

Mr. Miller,

I have reviewed the plans in connection with the petition. I have no objections to the proposals.

Please feel free to contact me, should you have any questions.

Sincerely,

FOR THE CHIEF OF POLICE,

Paul Walters, Sergeant
Traffic Bureau
(734) 466-2107

INSPECTION DEPARTMENT

BUILDING
HEATING
PLUMBING
ELECTRICAL
ZONING
ENVIRONMENTAL PROTECTION
ORDINANCE ENFORCEMENT



MAUREEN MILLER BROSNAN
MAYOR

JEROME A. HANNA
DIRECTOR

33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3097
(734) 466-2580
FAX: (734) 466-2095

Date: January 29, 2025

To: Jacob Uhazie

From: Jerome Hanna

RE: Petition 2025-01-02-01 - 27819 Plymouth Road

Pursuant to your request, the above-referenced Petition has been reviewed.

1. The parking lot shall be repaired and restriped as necessary. Parking spaces shall be 10' wide and 20' deep and double striped.
2. The van-accessible barrier-free parking space shall be sized, signed, and marked in accordance with the Michigan Barrier-Free Code.
3. An *enclosure* of sufficient height to completely screen the *dumpster* is required on three (3) sides of the waste receptacle, with a solid gate on the fourth side. The height of the *enclosure* must be not less than six (6) feet or at least one (1) foot above the height of the *dumpster*, whichever is greater. The *enclosure* gates shall be of solid panel steel construction or durable, long-lasting solid panel fiberglass and, when not in use, closed at all times. The *enclosure* must be constructed of the same or compatible material and colors as the principal building in terms of texture and quality.
4. A variance from the Zoning Board of Appeals would be required for the proposed 6' tall vinyl fencing proposed.

This Department has no further objections to this Petition.

I trust this provides the requested information.

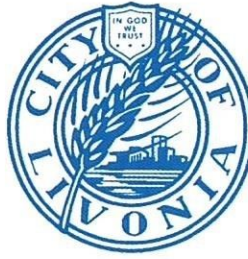
Jerome Hanna

Jerome Hanna
Director of Inspection

DEPARTMENT OF FINANCE

Debra Peck Lichtenberg, CPA
DIRECTOR OF FINANCE

Connie Kumpula
CHIEF ACCOUNTANT



MAUREEN MILLER BROSNAN
MAYOR

33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3097
(734) 466-2260
FAX: (734) 421-1807

January 31, 2025

Mr. Jacob Uhazie
Planning Commission
33000 Civic Center Drive
Livonia, MI 48154

Petition 2025-01-02-01 - 27819 Plymouth Road

Dear Mr. Uhazie,

I have reviewed the address connected with the above noted petition. As there are no outstanding amounts receivable (general or water and sewer), I have no objections to the proposal.

Please contact me if you have any further questions.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Connie Kumpula", with a large, stylized flourish at the end.

Connie Kumpula
Chief Accountant

CK: jw

OFFICE OF THE TREASURER

SUSAN M. NASH
CITY TREASURER



33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3060
(734) 466-2245
FAX: (734) 421-7230

January 17, 2025

RE: 27819 Plymouth

Attention: Livonia Planning Commission

All taxes are current for the property

If you have any further questions, please contact me

Thank you

Susan Nash
Livonia City Treasurer

**OTHER ITEMS
RELATED TO THE
PETITION**

Jeff Nicholas

11563 Cardwell

Livonia, MI 48150

Dear City of Livonia Planning Commission and everyone this letter concerns,

I am writing this letter regarding petition 2025-01-02-01 submitted by Eman Enterprises LLC. Property known as 27819 Plymouth Rd Livonia, MI.

I own the residential property that is right next door to the above-mentioned property. I am writing this letter asking you not to approve this type of business. I will state my reasons.

This property is not a large property. This would mean cars that are waiting to be worked on would be stored outside. The person that is looking at buying or leasing the mentioned property is already using the property to store vehicles. I have seen a tow truck going in and out of the property. Where would this tow truck be stored? Visually with the stored cars and tow truck, this would not be a good look to our neighborhood and community. This building currently has two bay doors. One facing north toward Plymouth Rd. The other facing east exiting out on to Cardwell. Cardwell is a residential street. Automobile repair facilities like the one mentioned above are generally noisy businesses. Air compressors are generally used with air tools such as air impact guns, air chisels and a variety of other air tools and hammering tools to remove broken and stuck parts on vehicles. There is also the noise of the tow truck and vehicles being moved around and stored on the property. Please refer to the maps of how my property 11563 Cardwell and 27819 Plymouth Rd are in close proximity of each other. There is very little distance between my residence and the business that is looking to get a waiver to use this property. The reason this property is not zoned for this type of business is to protect the residents from the above-mentioned concerns and noise.

City of Livonia Planning Commission please look at the number of already existing auto repair facilities we already have in this area. The one mile of Plymouth Rd, between Middlebelt and Inkster roads, there are already seven Automobile repair facilities and one car wash.

1. Firestone Complete Auto Care 29200 Plymouth Rd.
2. Livonia Car & Truck Repair 28850 Plymouth Rd
3. Oval Auto Repair 28735 Plymouth Rd
4. Speedy Auto Service 28411 Plymouth Rd
5. Livonia Auto Sellers 29068 Plymouth Rd
6. Feinn Tire Repair Facility 28055 Plymouth Rd
7. Raceway Pit Stop 28085 Plymouth Rd
8. Zax Auto Wash 36001 Plymouth Rd

I would also like to remind the City of Livonia Planning Commission that a few years ago you denied a rezoning for a car dealership/repair facility for the same concerns as I have mentioned above. The property I am referring to is located at 28121 Plymouth Rd Livonia, MI 48150. This property was the former location of Penalty Box Bar. I ask that you reference back to the reason you did not rezone the above mentioned property and denied a waiver of use. One of the main reasons this business was denied a waiver of use, the size of the property and how close it was to the proximity of residential homes. This property at 28121 Plymouth Rd is larger in size and has more distance from the resident's home then the property at 27819 Plymouth Rd which is next to where I live. Another reason the Planning Commission denied a "waiver of use permit" was concern of noise pollution to the residential neighborhood.

In closing, Livonia has zoning ordinances for a reason. The reason is to protect residents and neighborhoods from businesses that do not fit in a particular location. This business does not belong at this location and that is why a "waiver of use permit" is being asked for. I ask the City of Livonia to enforce the current zoning laws and deny this business. Thank you for your time.

Sincerely,

Jeff Nicholas

Petition 2025-01-02-01

From Kelly Richard <krichard6940@att.net>

Date Mon 2/3/2025 5:08 PM

To Planning <Planning@Livonia.gov>

In regards to this I have some concerns. I am all for businesses being rehabilitated but when we have so many other car repair facilities on Plymouth road how will this affect business.

- What is the sound impact? Currently there is a bay that faces the neighborhood and my backyard faces that. I don't want to hear the various repair tools running all day. It's a large disruption to anyone

If the business were to go in, I would say that the bays in use could only face Plymouth road, this would held reduce any excess noise going into it the neighborhood. No doors or bays facing residential areas. I can't imagine the sound for the person who lives directly behind it. I think there are other more commercial slots this would fit in.

If the petition passes , I would also suggest that additional landscaping be put I place to reduce noise.

What are the hours of this proposed business? Are we to hear the noise all day/evening and weekend? I enjoy my backyard and also wfh, if all I hear is pneumatic tools it will distract from enjoying my home and I would have to keep windows shut to avoid interruption to my work.

Where will excess cars be parked? The lot is very very small and there is no room for parking. Will they park in the streets blocking spots for any residents to use?

Overall I disagree with the petition and hope that Livonia agrees. Mickey shores was bad enough this will only be worse.

Thanks
Kelly Richard
Krichard6940@att.net
Cavell St.

From: [Bethany](#)
To: [Planning](#)
Subject: Eman Enterprises
Date: Wednesday, February 5, 2025 10:37:16 PM

Livonia Planning Commission,

I do not support the redevelopment to an automobile repair facility for 27819 Plymouth Road. I'm concerned about property values and noise.

Bethany Wagner
11532 Cardwell St

From: [Rohraff, Leslie](#)
To: [Kasprowicz, Sara](#)
Subject: Committee of Whole Meeting 5-19-25
Date: Tuesday, May 20, 2025 2:33:13 PM

Please share this information with the Committee of the Whole.

I would like to address a situation that I understand was brought up in a recent Committee of the Whole meeting. The subject matter was physical contact related to an employee of the Clerk's office and a Department Head. I believe that incident pertains to Todd Zilincik and myself. There was no disagreement. We were discussing contracts signatures and contract routing and Todd (being Todd) was talking fast and loudly, and I am naturally loud. There was no interference with any customers. While we were talking, Doris came over, interrupted and abruptly put her hand on Todd's arm, turned him around and escorted him to the door. I talked to Todd a couple of days later and we were both really caught off guard and offended at Doris's behavior.

There were many other situations with Lori and Doris that eventually caused my transfer to another department.

I would be happy to discuss any of this with the Committee if they have any questions.

Leslie Rohraff
Clerk Typist II
City of Livonia | Inspection Department
(734) 466-2589
lrohraff@livonia.gov

OFFICE OF THE CITY CLERK

LORI L. MILLER
CITY CLERK

DORIS E. DeMARCO
DEPUTY CITY CLERK



33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3097
(734) 466-2230
FAX: (734) 421-1147

May 19, 2025

Honorable Members of
Livonia City Council

RE: Response to Concerns - Committee of the Whole Meeting
held May 12, 2025

Dear Councilmembers:

I assure you that I uphold the Charter very seriously and am committed to providing excellent customer service for our residents. I am fiscally responsible in the operation of the Department. Since taking office in January, 2024, I have worked diligently to off-set the costs of elections using various tools as outline below:

1. Grant - Round 1, Early Voting:	\$101,051.00
2. MiWorks Youth Outreach Intern:	\$7,140.00
3. Grant - Round 2, Early Voting:	\$34,567.50
4. Reimbursement, State of Michigan for 2/24 Primary	\$188,125.96
5. MIOSHA Grant for De-Escalation Training (Partnership with Emergency Preparedness Director)	\$5,000.00
6. Madonna University Intern:	\$7,767.00
7. LPS/Career Center Intern (15 hrs. x 16 weeks only):	\$4,144.80
8. Institute for Responsive Government 2024 Grant Program (maximum amount obtained):	\$60,000.00
9. Physical Security & Election Resiliency Grant, State of Michigan (*Pending Approval, Submitted 4/28/25)	\$6,657.46

TOTAL SAVINGS FOR CITY: \$414,453.72

Please find below my response to concerns raised May 12, 2025. I am confident not one concern or issue raised is in violation of the Charter.

1. Business Licenses: Concerns raised are **untrue**. We have **increased** our revenue by more than \$5,000 over the same fiscal time period. Documents enclosed.
2. Animal Licenses: Council was presented with the rationale for the proposed changes. After consideration, Council approved the amended Ordinance. The Clerk's Office has not been made aware of the nature of subsequent resident complaints directed to Council. Staff concerns are handled through Civil Service to maintain confidentiality.
3. Election Errors: I am uncertain the context of this statement. All three (3) elections I have administered have been successfully canvassed by Wayne County and certified by the State of Michigan. Any other concerns have been asked and answered at public meetings.

I have done extensive research to understand and use Livonia's historical past practices, under the preceding five (5) Clerks under whom I have served, to provide the benchmark for current practices and to aid in the implementation of future changes,
4. Notary Expired: Asked and answered. Documents enclosed.
5. Contracts Not Being Processed Correctly or Inefficiently: I have no context of this concern. DocuSign software was implemented in 2024 with the assistance of the Law Department to streamline and improve this process, saving valuable time and City resources.
6. Notice of Intent-Bonds: This is **untrue**. A publication **was** published in the *Detroit Legal News* on August 15, 2024. An issue was raised in February, 2025 regarding the size of the notice. It was immediately published a **second** time.
7. Physical Contact, relative to an Employee and a Department Head: This incident occurred more than 14 months ago. It involved a Department Head arguing with an employee of the Clerk's Office. The noise level escalated, interfering with services for residents at the counter and on the phone. De-escalation techniques ultimately resulted in the need to separate the individuals. No physical contact or force was used. Later that week, the two individuals involved met at the DPW Administration Office and discussed and worked things out. To my knowledge, this situation was resolved. The City has very specific policies in place. I have confirmed with Civil Service that no complaint was filed.
8. Bullying Behavior to Employees in Other Departments: I have no knowledge of this concern or its context. I have been informed nothing has been brought to Civil Service by any City personnel.
9. Study and Regular Agenda Errors: Agenda items are created by individual departments. Prior to the implementation of CivicClerk in 2020, a printed paper copy of the "draft" Agenda was reviewed and "marked up" for changes by the Council Office. This back and forth process used to take 1-3 days before an Agenda was complete and approved by the President.

Current changes and revisions are no different. They are not “errors” and this process has been in place for more than 20 years. Earlier this month, the Clerk’s Office partnered with IS to schedule and provide detailed training on CivicClerk software to Department Heads and Program Supervisors. The goal was to remedy this problem and benefit all City departments, especially Council. The Clerk’s Office and IS split the cost of this training.

10. Clerical Errors: The context of this statuement is unclear. Study Agendas do not show motions made by Council. The **style** of Study Minutes has changed over the years at the request of sitting Councilmembers, both current and former. No documents to my knowledge have been changed to remove Department Head signatures.
11. Questions re: Council/Council Office being routed to other departments: I have no knowledge or context of what this relates to. This statement is vague and ambiguous.

The constant unfavorable gossip that flows in City Hall should not be the target of a Council investigation. The storytelling of lies and gossip has created a divide among departments and participating in gossip is counter-productive. Most of the concerns raised by Council are not based in fact. If situations are addressed as they occur, a simple conversation could have provided clarity and easily alleviated any concern.

I have served our community for more than 18 years and take great pride in running my department from a place of empathy and servitude, ensuring our voters’ rights are protected in our democracy. I am confident Council will continue to exercise its’ authority and will investigate all City departments, holding them to this new level of oversight.

I welcome the support of Council as an ally, and look forward to working together to improve processes of City government. If you have any further inquiries, please let me know.

Very truly,

Lori L. Miller

Lori L. Miller
City Clerk

Encs.

Xc: Mayor; Law; Civil Service; File

Suggested talking points for COW of May 12, 2025.

Let's work together and look forward to helping each other stay informed on how and why there needs to begin a process of transparency and accountability.

The Clerk's Office will be a big part of the focus today so we can gain a deeper understanding of what the Clerk and Deputy Clerk are doing to bring new and innovative processes while gaining an understanding of the current process and past practices.

Lack of communication impacts the cost to the city, not only financially, but also time, as well as the domino effect to the public and others. Some of the following items are concerns:

1. Business licenses – loss of revenue by not processing licenses.
 - Why are they behind and what is going to be done moving forward
2. Animal licenses – Council still receives calls from residents
 - Staff yelled at by residents with no support from management
 - Staff told to adhere to old ordinance during amendment change when an announcement by City Clerk was made otherwise. Staff continued to be yelled at by residents.
3. Election errors
 - What will be done moving forward so the errors don't continue
4. Clerk's Notary – expired since Dec 1, 2024
 - What action has been taken to prevent legal documents from being notarized illegally?
5. Contracts are not being processed correctly or efficiently
 - What will be done moving forward to prevent contracts being held up in the future?
6. Intent to issue bond was not published
 - What will be done moving forward to prevent this from happening in the future?
7. Physical contact with employees (Todd escorted physically out of Clerk's Office)
 - What measures were taken?
8. Bully behavior towards employees in different departments creates a divide among departments working with Clerk's Office
 - What measures are being taken, if any?
9. Constant Study and Regular agenda errors from Clerk's Office
 - What measures are being taken, if any?
10. Clerical errors
 - Study agendas removing Councilmember motions on items (done by Clerk Nov 2024 to April 2025)
 - Documents have been changed, removing Dept. Head signatures
11. Questions pertaining to Council/Council Office being routed to other departments for answers.
 - What is the reason for not answering the questions or not routing directly to the Council Office?

Council concerns raised at
COW 05/12/25

BUSINESS LICENSES

OFFICE OF THE CITY CLERK

Calendar Year	\$ Amount	# of Transactions
2020	\$59,643.90	126
2021	\$58,549.90	160
2022	\$59,309.90	156
2023	\$63,533.90	154
2024	\$49,765.80	124
2025*	\$37,947.90	78
TOTAL:	\$328,751.30	798
AVERAGE:	\$54,791.88	133

Fiscal 1/2 Year	\$ Amount	# of Transactions
12/01/20-05/15/21	\$31,397.00	78
12/01/21-05/15/22	\$30,645.00	68
12/01/22-05/15/23	\$34,135.00	76
12/01/23-05/15/24	\$28,750.00	70
12/01/24-05/15/25	\$39,447.90	85
TOTAL:	\$164,374.90	377
AVERAGE:	\$32,874.98	75.4

*Only 5 months through year

STATE OF MICHIGAN

DEPARTMENT OF STATE

JOCELYN BENSON

SECRETARY OF STATE

In the Name and by the Authority of the People of the State of Michigan,
I do appoint

LORI L MILLER

Notary Public, for the County of WAYNE

in said State of Michigan, to execute the duties of and hold said office from this date
hereof.



IN WITNESS WHEREOF, I execute this certificate and affix the GREAT
SEAL of the State of Michigan on this 5th day of May 2025.

Joelyn Benson

Secretary of State

This Commission expires 01-Dec-2031

Form 11-(01/20)

COMMITTEE OF THE WHOLE MEETING
MAY 19, 2025
6:00PM

A Committee of the Whole meeting was held on May 19, 2025, in the Council Chambers at Livonia City Hall.

Committee Members Present: Brandon McCullough, Council President and Chair
Martha Ptashnik, Council Vice President
Carrie Budzinski
Lynda L. Scheel

Committee Members Absent: Rob Gjonaj Donovic
Scott Morgan
Laura M. Toy

City Officials Present: Lori Miller, City Clerk
Susie Nash, City Treasurer
Carter Fisher, City Attorney
Robb Drezwicki, Governmental Affairs Director

Additional attendees: See the attached list.

- | |
|---|
| 1. The subject matter of an investigation into City Departments and their procedures as it relates to the City's Charter. (CR 131-25) |
|---|

The Committee meeting commenced at 6:09 PM.

Council President Brandon McCullough introduced the item. Council members posed various questions, referencing the list provided by the City Council. The City Clerk was able to address and provide insight on most inquiries.

The Committee meeting adjourned at 6:17 PM.

The Committee recommends:

For this subject matter to remain in committee.

Note: This item will remain in Committee.

This item is to be placed on the **Regular Meeting Agenda of July 21, 2025**

A handwritten signature in black ink, appearing to read 'B. McCullough', written over a horizontal line.

Brandon McCullough, City Council President

COMMITTEE OF THE WHOLE
MONDAY, MAY 19, 2025, 6:00PM

NAME

DEPT OR CONTACT INFO FOR NOTIFICATIONS*

*PERTAINING THE SUBJECT MATTER OF THIS MEETING

Frances Janis

Eileen McDonnell

Cindy Fleming

Jacki Graham



LETTER TO THE LIVONIA CITY COUNCIL

1.

Council Office
May 8, 2025

MEETING DATE

PRESENTED BY

COW051225/R051925/COW051925/R061625

AGENDA ITEM

The subject matter of an investigation into City Departments and their procedures as it relates to the City's Charter. (CR 131-25)

BACKGROUND DETAILS

A discussion was held at the Committee of the Whole Meeting on May 12, 2025, with a report of the meeting to be made at the Regular Meeting of May 19, 2025.

A follow-up Committee of the Whole Meeting was requested by Council President Brandon McCullough to be held on May 19, 2025, with a report of the meeting to be made at the Regular Meeting of June 16, 2025.

At the Regular Meeting of May 7, 2025:

RESOLVED, that upon the motion by Councilmember Laura Toy, seconded by Council Vice President Martha Ptashnik, at the Regular Meeting held May 7, 2025, THE COUNCIL DOES HEREBY REFER THE SUBJECT MATTER OF AN INVESTIGATION INTO CITY DEPARTMENTS AND THEIR PROCEDURES AS IT RELATES TO THE CITY'S CHARTER TO THE COMMITTEE OF THE WHOLE FOR ITS REPORT AND RECOMMENDATION.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

To discuss the subject matter as presented.

ATTACHMENTS

1. COW051225 LTC Department investigation

APPROVED BY

COMMITTEE OF THE WHOLE MEETING
MAY 12, 2025
6:00PM

A Committee of the Whole meeting was held on May 12, 2025, in the Council Chambers at Livonia City Hall.

Committee Members Present: Brandon McCullough, Council President and Chair
Martha Ptashnik, Council Vice President
Carrie Budzinski
Rob Gjonaj Donovic
Scott Morgan
Lynda L. Scheel
Laura M. Toy

Committee Members Absent: None

City Officials Present: Lori Miller, City Clerk
Susie Nash, City Treasurer
Carter Fisher, City Attorney
Jeannine Laible, Civil Service Director
Robb Drezwicki, Governmental Affairs Director

Additional attendees: See the attached list.

- | |
|---|
| 1. The subject matter of an investigation into City Departments and their procedures as it relates to the City's Charter. (CR 131-25) |
|---|

The Committee meeting commenced at 6:02 PM.

Council President Brandon McCullough introduced the item.

Councilmember Scheel requested the list of candidates on the August 2025 ballot from the City Clerk.

Councilmember Toy spoke deeper on the concerns regarding the City Clerk and Deputy Clerk.

Questions were asked to Clerk Miller by Council President McCullough, Council Vice President Ptashnik and Councilmembers Toy, Donovic, Budzinski and Scheel.

Questions were asked to City Attorney Fisher and Civil Service Director, Jeannine Laible regarding a shift of the Council agendas to be completed from start to finish by the Council Office.

Livonia resident, Steve King, commented on the errors made on affidavits and mentioned that City Council has an oversight on the City departments.

President McCullough suggested a follow up Committee of the Whole meeting to allow Clerk Miller time to respond to the list of questions brought before her.

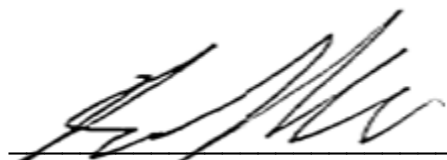
The Committee recommends:

That Clerk Miller provides answers to the (attached) questions asked during this meeting.

The Committee meeting adjourned at 6:39 PM.

Note: This item will remain in Committee.

This item is to be placed on the **Regular Meeting Agenda of May 19, 2025**



Brandon McCullough, City Council President

COMMITTEE OF THE WHOLE MEETING
MONDAY, MARCH 12, 6:00PM

NAME

DEPT OR CONTACT INFO FOR NOTIFICATIONS*
*PERTAINING THE SUBJECT MATTER OF THIS MEETING

Lori Miller

Clerk's Office

John Allesh

Susan NL

Jack^Q Graham

Deb Christiansen

Eileen McDonnell

Ellen Dorman

Cindy Fleming

Carol Poenisch

Northville Twp EDC/BRA

Patricia Wolfe Warren

Marlene Kataras

Suggested talking points for COW of May 12, 2025.

Let's work together and look forward to helping each other stay informed on how and why there needs to begin a process of transparency and accountability.

The Clerk's Office will be a big part of the focus today so we can gain a deeper understanding of what the Clerk and Deputy Clerk are doing to bring new and innovative processes while gaining an understanding of the current process and past practices.

Lack of communication impacts the cost to the city, not only financially, but also time, as well as the domino effect to the public and others. Some of the following items are concerns:

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LETTER TO THE LIVONIA CITY COUNCIL

1.

Council Office
May 8, 2025

MEETING DATE

COW051225/R051925

PRESENTED BY

AGENDA ITEM

The subject matter of an investigation into City Departments and their procedures as it relates to the City's Charter. (CR 131-25)

BACKGROUND DETAILS

At the Regular Meeting of May 7, 2025:

RESOLVED, that upon the motion by Councilmember Laura Toy, seconded by Council Vice President Martha Ptashnik, at the Regular Meeting held May 7, 2025, THE COUNCIL DOES HEREBY REFER THE SUBJECT MATTER OF AN INVESTIGATION INTO CITY DEPARTMENTS AND THEIR PROCEDURES AS IT RELATES TO THE CITY'S CHARTER TO THE COMMITTEE OF THE WHOLE FOR ITS REPORT AND RECOMMENDATION.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

To discuss the subject matter as presented.

ATTACHMENTS

None

APPROVED BY

COMMITTEE OF THE WHOLE MEETING
JUNE 16, 2025
6:00PM

A Committee of the Whole meeting was held on June 16, 2025, in the Council Chambers at Livonia City Hall.

Committee Members Present: Brandon McCullough, Council President and Chair
Martha Ptashnik, Council Vice President
Carrie Budzinski
Lynda L. Scheel

Committee Members Absent: Rob Gjonaj Donovic
Scott Morgan
Laura M. Toy

City Officials Present: Lori Miller, City Clerk
Susie Nash, City Treasurer
Carter Fisher, City Attorney
Robb Drezwicki, Governmental Affairs Director

Additional attendees: See the attached list.

1. The subject matter of the Noble Library and Shelden Park issues (CR 116-24).

The Committee meeting commenced at 6:01 PM.

Council President Brandon McCullough introduced the item, providing insight into the updated building condition assessment and the revised opinion from Administration. Following discussion and comments from all Council Members, the item will remain in committee for further consideration.

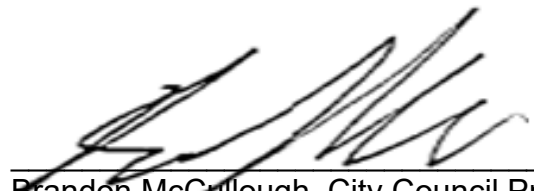
The Committee recommends:

For this subject matter to remain in committee.

The Committee meeting adjourned at 6:45 PM.

Note: This item will remain in Committee.

This item is to be placed on the **Regular Meeting Agenda of July 21, 2025**

A handwritten signature in black ink, appearing to read 'B. McCullough', is written over a horizontal line.

Brandon McCullough, City Council President

COMMITTEE OF THE WHOLE MEETING
MONDAY, JUNE 16, 2025 - 6:00PM

NAME

DEPT OR CONTACT INFO FOR NOTIFICATIONS*

*PERTAINING THE SUBJECT MATTER OF THIS MEETING

Cindy Fleming	Save Alfred Noble
Pastor Yvette Juarez	
Patrick Brockway	
Lori Miller	Clerk
Jacki Graham	
Steve Moten	
Marlene Katalian	
Paul Johnson	Save H. J. Noble
Tiffany Lytle	save Noble
Eileen McDonnell	Noble -
Laura Janak	Noble
Jenny O'Connor	SAVE NOBLE! :)
Leif Christiansen	SAN C
Frances Jones	
Reg Waknell	

From: [Mayor Maureen Miller Brosnan](#)
To: [CityCouncil](#)
Cc: [Davis, Ted](#); [Lichtenberg, Debra](#); [Kumpula, Connie](#); [Fisher, Carter](#); [Mayor Staff](#)
Subject: Letter to City Council
Date: Wednesday, June 11, 2025 4:56:40 PM
Attachments: [Letter to Council 6-11-25 PDF.pdf](#)

Good afternoon City Council members,

Please see the attached letter.

Thank you,
Maureen

Maureen Miller Brosnan
Mayor
City of Livonia | Mayor's Office
(734) 466-2201
mayor@livonia.gov

OFFICE OF THE MAYOR

MAUREEN MILLER BROSNAN
MAYOR



33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3097
mayor@livonia.gov
(734) 466-2201

June 11, 2025

TO: Livonia City Council
RE: Noble building status and Shelden Park plans

At the June 2, 2025, City Council meeting, Council members voted to move the topic of the building issues at the Noble facility to the Capital Outlay and Infrastructure Committee. We are working with the committee chairman to schedule this meeting in conjunction with DPW staff and the schedule of NTH Consultants, the firm that provided the Limited Production Condition Assessment. That way, we will ensure a productive discussion about the repairs and structural upgrades being conducted and those possible for the building.

In the meantime, we will continue efforts to properly mothball the building, provide interior ventilation, secure the building from external forces, and provide regular surveillance and monitoring.

We also appreciate the Council's decision to direct the discussion of creating a community-led strategic planning effort for the future of the Noble site in the Economic Development, Strategic Planning Committee. The goal is to utilize the process and principles that are part of Livonia Vision 21. We expect to have a proposal to discuss during the Aug. 18, 2025, committee meeting set by the committee chairwoman.

Development plans for Shelden Park have been part of Livonia Parks and Recreation's capital planning over at least the past five years. The Administration has worked with the Livonia Parks and Recreation Commission, in conjunction with the Plymouth Road Development Authority, to develop an impressive site plan for a new splash pad, playgrounds, sports fields and facilities, walking paths and a pavilion at Shelden Park. As you know, the Council has been asked to approve a notice of intent to issue general obligation bonds of up to \$5 million for this project during the Council Study Meeting on June 16, 2025.

Sincerely,

A handwritten signature in black ink that reads "Maureen Miller Brosnan".

Maureen Miller Brosnan
Mayor

cc. Parks and Recreation, Finance, Law



LETTER TO THE LIVONIA CITY COUNCIL

Council Office
June 5, 2025

MEETING DATE

COW061625

PRESENTED BY

AGENDA ITEM

The subject matter of the Noble Library and Sheldon Park issues (CR 116-24)

BACKGROUND DETAILS

At the Regular Meeting of November 6, 2024:

President McCullough gave report on the Committee of the Whole meeting of October 16, 2024.

At the Regular Meeting of May 20, 2024:

President McCullough gave report on the Committee of the Whole meeting of April 3, 2024.

On a motion by Councilmember Jolly, supported by Councilmember Toy and unanimously adopted, it was:

CR 177-24 RESOLVED, that having considered the report and recommendation of the Committee of the Whole, dated April 3, 2024, submitted pursuant to Council Resolution 116-24, regarding the subject matter of the Noble Library and Sheldon Park issues, the council does hereby authorize the Administration to maintain the Noble Library property so as to prevent further deterioration.

On a motion by Councilmember Budzinski, supported by Vice President Ptashnik it was:

CR 178-24 RESOLVED, that having considered the report and recommendation of the Committee of the Whole, dated April 3, 2024, submitted pursuant to Council Resolution 116-24, regarding the subject matter of the Noble Library and Sheldon Park issues, the Council does hereby refer this item to the Administration for its report and recommendation regarding the cost of returning Noble Library to fitness for occupancy as determined by formal inspections and tests.

At the Regular Meeting of March 20, 2024:

RESOLVED, that upon the motion by Council President Brandon McCullough, seconded by Councilmember Carrie Budzinski, at the Regular Meeting held March 20, 2024, the Council does hereby refer the subject matter of the Noble Library and Sheldon Park issues to the Committee of the Whole for its report and recommendation. (CR 116-24)

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

n/a

ATTACHMENTS

1. R0600225 LTC Admin Response to CR 54-25
2. R060225 Noble Site Report 5-9-25dv PDF
3. R060225 OHM Updated Cost Estimate 04-2023 Noble Library
4. R060225 Compressed - NTH 2025 (1)
5. Noble Library docs (CR 116-24)
6. R022425 \$20K for Structural Assessment for Noble CR 54-25
7. R022425 LTC Admin Response to CR 177-24
8. Noble Property Maintenance Update 2-06-25 PDF
9. R102124 Addition of funds for noble library in 2025 budget CR 354-24
10. R052024 Administration to maintain Noble Library property CR 177-24
11. R032024 Subject matter of the Noble Library and Sheldon Park issues to COW CR 116-24

APPROVED BY



LETTER TO THE LIVONIA CITY COUNCIL

Mayor's Office
May 9, 2025

MEETING DATE

R060225

PRESENTED BY

AGENDA ITEM

a. ADMINISTRATIVE RESPONSE TO COUNCIL RESOLUTION 54-25: Office of the Mayor, re: the Noble Building Assessment.

BACKGROUND DETAILS

Honorable Members of the City Council, City of Livonia
RE: Council Resolution #54-25 Noble Building Assessment

Dear Council Members,

I am herewith submitting to you, the administrative response to CR #54-25. Please see this response, along with two supporting documents.

Thank you,
Maureen Miller Brosnan, Mayor

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

Receive and file

ATTACHMENTS

1. Compressed - NTH 2025
2. OHM Updated Cost Estimate 04-2023 Noble Library
3. R022425 \$20K for Structural Assessment for Noble CR 54-25

APPROVED BY

A handwritten signature in cursive script that reads "Debra A. Lichtenberg".

Debra Peck Lichtenberg, CPA, Finance Director

Date: May 09, 2025



Date: May 09, 2025

Maureen Miller Brosnan, Mayor

OFFICE OF THE MAYOR

MAUREEN MILLER BROSNAN
MAYOR



33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3097
mayor@livonia.gov
(734) 466-2201

May 9, 2025

TO: Livonia City Council
RE: CR #54-25, Noble building assessment

In response to CR #54-25, we are sharing the attached limited Property Condition Assessment of the Noble building, produced by NTH Consultants.

Additionally, for convenience, we are providing a copy of the report provided two years ago by OHM Advisors outlining their opinion of the costs for renovations and recommendations for repairs or new construction at the Noble site.

The NTH report focuses on the structural integrity of the building. The OHM report is more comprehensive in its focus on rehabbing the building and the entire site to make it ready for occupancy.

There is some overlap in the two reports. Both identify needed repairs of perimeter foundation drains outside the footings, exterior grading and sidewalk replacement on the perimeter of the building, roof and flashing replacement, masonry wall repairs, replacement of ceilings, carpeting, and painting.

However, only the OHM report included costs for HVAC replacement, window replacement, mold remediation, electrical panel and distribution replacement, parking lot and sidewalk removal/replacement, storm sewer and underground detention, site grading, landscaping and buildout and electrical distribution for a new bathroom (current standards).

In order to make the estimates comparable, we asked Engineering to look at renovations that were missing from the NTH report. They estimate that the costs of HVAC and electrical would add \$1,750,000 to \$2,000,000, and replacing windows and associated items would add about \$250,000 to the building renovation estimate (\$787,670). Those estimates put the NTH proposed cost at about \$3,000,000 for building renovations. OHM's building renovation estimate was \$2,835,000 (in 2023).

As a point of perspective on this report, the Noble building was closed in 2019 due to the presence of mold. At the time, it was open three days a week. The Covid-19 pandemic and subsequent shutdowns arrived a few months later, creating a new, laser focus for the Administration as we created Together Livonia Cares to provide testing, vaccines and support in response to the deadly outbreak in our community. This became a significant priority over those next two years. We believe it is now time to take a fresh look at the Noble site.

We appreciate the time and attention Council has placed in understanding the condition of the Noble building and look forward to working with Council to determine the most appropriate use for the site moving forward. To that end, we recommend the following next steps:

1. Continue efforts to properly mothball the building -- Update the condition assessment of the building provided by OHM, stabilize the exterior, provide some kind of interior ventilation, secure the building from vandals, break-ins and natural disasters, and provide regular surveillance and monitoring.
2. Engage in a community-led strategic planning process to determine the future use of the Noble site. The time is right to advance the visioning process for this section of Plymouth Road, using the process and principles embodied in Livonia Vision 21.

Estimated costs for both of these items will be included in the 2025-26 budget for your review and approval.

Sincerely,

A handwritten signature in black ink that reads "Maureen Miller Brosnan". The signature is fluid and cursive, with the first name "Maureen" being the most prominent.

Maureen Miller Brosnan
Mayor

Cc: Department of Public Works
Engineering
Library
Finance
Planning
Inspection



April 5, 2023

Mr. Jacob Rushlow, PE
Assistant Director of Public Works
City of Livonia
12973 Farmington Road
Livonia, MI 48150

RE: Alfred Noble Library Opinion of Costs

Dear Mr. Rushlow:

In May 2021, OHM Advisors visited the closed Alfred Noble Library building and completed a walkthrough with City staff. Based on the walkthrough and additional materials provided by the City, we prepared a memo dated July 8, 2021, with an of Opinion of Cost and recommendations for repairs as well as a new building alternative and complete demolition. This letter is an update of the Opinion of Cost for the three options: 1) Complete Demolition, 2) Renovation of the building to provide a core and shell building with no specific interior layout, and 3) Construction of a new building of comparable size.

Below is a summary of these three approaches and associated costs:

Option	Description	Cost
1	Building/Site Demolition	\$ 475,000
2	Building Renovation and Site Improvements	\$ 5,510,000
3	New Building	\$ 7,320,000

A further breakdown of the above costs, including general construction, contingency, professional services , and contractor fees are outlined below in the Opinion of Cost section.



Opinion of Cost

Of recent, the current market has been volatile and ever changing as it relates to construction costs. With the costs of materials, , labor, and unknown factors like availability and lead time, the following opinion of costs have taken into consideration higher than normal contingency values as well as included an escalation markup for both labor and materials for an estimated construction time from starting end of 2023 at the earliest. If additional years are considered, there should be escalation costs added to these numbers between 5-6% annually.

1. Demolition of existing building and site clearing

The opinion of cost for demolition of the existing building includes demolition of entire building, removal of foundations and infill of basement area, sidewalks and site garden areas to be removed, general infill grading and seeding of area. It assumes the parking lot is to remain.

No	Description	Cost
1	Building demolition and Infill	\$ 300,000
2	Site	\$ 50,000
3	Subtotal	\$ 350,000
4	Contingency (10%)	\$ 35,000
5	Escalation (4%)	\$ 15,000
6	Testing (8%)	\$ 25,000
7	General Conditions/OH&P (15%)	\$ 50,000
10	Total	\$ 475,000



2. Renovation of existing building and site improvements

The intent of the renovation of the existing building and site improvements is to fully renovate the building to modernize the building envelope and provide an interior core of services and open concept plan for future development.

The following are site work assumptions used for development of this cost:

- Removal and replacement of parking lot pavement and aggregate base, including storm improvements to manage runoff from the new lot to current standards.
- Perimeter drainage at building footings to assist in water management around building. The new drainage system will be connected to existing sewers on site.
- New landscaping.
- New sidewalks with modification to grading areas around the building to improve site drainage.

The following are building component assumptions used for development of this cost:

- Complete tear out of existing space, providing new restroom core for size of building,
- Replacement of building envelope systems such as windows, roofs, and flashings. Existing structure and building enclosure (masonry) would remain with repair work such as tuckpointing and painting.
- Replacement of utility equipment, including mechanical units, power panels, and boilers. MEP distribution systems would be limited to core improvements (restrooms).

The following are items not in the opinion of cost:

- Interior space improvements, including MEP distribution systems and finishes.
- Loose furnishings or equipment.
- Replacement of existing sidewalks other than described above for drainage purposes.

We have included a 30% contingency with the type of renovation work being performed and possible mitigation required as additional areas/materials are exposed. We have also included a 4% escalation cost recognizing the project would not start until 2024 and reflective of continued rise in costs we have been seeing. A testing allowance of 6% is included due to further assessment of material abatement and existing conditions of materials that should be re-tested as work is completed to confirm all work has been done correctly.

No	Description	Cost
1	Building Renovations	\$ 2,835,000
2	Site work	\$ 550,000
4	Subtotal	\$ 3,385,000
5	Contingency (30%)	\$ 1,000,000
6	Escalation/Material Contingency (4%)	\$ 140,000
7	Testing (6%)	\$ 205,000
8	General Conditions/OH&P (10%)	\$ 340,000
9	Professional Fees (13%)	\$ 440,000
10	Total	\$ 5,510,000



3. New building of similar size and function

The new building cost includes cost for a new 13,500 SF building on a green site. Similar lot size with similar parking and site circulations, landscaping, and utilities would be available in the new design.

The following are site work assumptions used for development of this cost:

- Provide new parking lot with HMA pavement, including installation of underground storage system to manage runoff generated by the proposed improvements.
- New landscaping.
- New sidewalks access to building. Assumed new sidewalk would have approximately the same area as the existing walks.

The following are building component assumptions used for development of this cost:

- Similar building size and features including masonry construction, with storefront glass, standing seam metal roof.
- Primary utility equipment, including mechanical unit, power panels, and boilers. MEP distribution systems would be limited to core (restrooms).

The following are items not in the opinion of cost:

- Interior space layouts, including MEP distribution systems and finishes.
- Loose furnishings or equipment.
- Reconfiguration of existing water and sanitary sewer utilities on site. Reconfiguration may be needed depending on location and layout of the new building.

No	Description	Cost
1	Building	\$ 4,100,000
2	Site work	\$ 1,050,000
4	Subtotal	\$ 5,150,000
5	Contingency (15%)	\$ 775,000
6	Escalation/Material Contingency (4%)	\$ 206,000
7	Testing (2%)	\$ 105,000
8	General Conditions/OH&P (10%)	\$ 515,000
9	Professional Fees (11%)	\$ 569,000
10	Total	\$ 7,320,000

If you have any questions or want to discuss any items in more detail, please do not hesitate to call to review further.

Sincerely,
OHM Advisors



Christopher Ozog, Project Architect

cc: Rhett Gronevelt, OHM Advisors
Attachment: Aerial Site Scope

Alt 2: Renovation

Legend		
Description	Quantity	Unit

french drain to intercept runoff near building. Outlets to existing sewer.

french drain to intercept runoff near building. Outlets to existing sewer.

9,480 sf

"GSI system" item included to stormwater management of parking lot. Assumes parking lot pavement to be replaced.

0.8 ac

Aerial - Site Scope
April 5, 2023

Mr. David Lear, P.E.
Assistant City Engineer
City of Livonia / Engineering
33000 Civic Center Drive
Livonia, Michigan 48154

April 25, 2025
NTH Project No. 23001529-02

**RE: Limited Property Condition Assessment
Noble Library Building
32901 Plymouth Road
Livonia, Michigan**

Dear Mr. David Lear:

On behalf of the City of Livonia (City), NTH Consultants Ltd. (NTH) has completed a limited Property Condition Assessment (PCA) of the Noble Library Building in Livonia, Michigan. NTH conducted a visual review of the building and assessed visible conditions relative to the building's structural system, façade/fenestrations, interior construction / finishes, sidewalks, and general site conditions.

Our services were performed in general accordance with the scope and limitations of ASTM 2018, "Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process" including a non-destructive visual review of accessible features and finishes, analysis of our collected field data, and preparation of this letter report.

The following sections describe NTH's understanding of the project background, our assessment procedure, a summary of our findings, our conclusions and recommendations for conceptual repairs / corrective measures, and conceptual level quantities. Additionally, we have prepared an engineer's opinion of probable costs, based on our observations, conclusions, and recommendations.

BACKGROUND

The subject property is the Noble Library Building, at 32901 Plymouth Road, Livonia, Michigan. The library is a one-story building with a basement and is situated on developed land with parking lots, sidewalks, and sewer systems. Based on the historical information provided, the building was built circa 1965. Overall, the footprint of the building is approximately 12,600 square feet. The main floor area comprises approximately 12,533 square feet and the basement comprises approximately 1,693 square feet. The building has been closed since 2019 due to water infiltration and mold issues.

The building's basement houses a meeting room, storage room, and mechanical room. The building's main floor level consists of a juvenile reading room, an adult reading room, a lounge and meeting area, working rooms, men, women and family rest rooms, janitor room, librarian working area, and corridors.



ASSESSMENT PROCEDURE

NTH conducted a walkthrough of the building to perform a non-destructive visual assessment of the subject property on April 16, 2025, accompanied by City of Livonia facilities staff.

The objective of the walkthrough was to gain familiarity with the building layout, its systems and site features, and identify apparent deficiencies including deterioration, defects, and items of significant concern.

NTH's assessment team photographed and documented apparent defects of the building's interior spaces during the walkthrough. NTH also performed inspection of the roof area using a drone.

Additionally, NTH conducted a visual inspection of the building's exterior façade system, sidewalks, and site features; photographed and documented observed defects, and collected exterior dimension measurements.

SUMMARY OF FINDINGS

NTH's observations of significant defects, and recommendations are described below. Representative photos of the building basement and main floor observations can be found in Appendix A. Raw photos are provided in an electronic file.

Inside Building Observations

At the Basement Level we noted:

1. A layer of water and sludge covering the basement floor, hindering the visual inspection. The exposed areas of the concrete floor appear to be in good shape with no cracks identified. (Photo No. 4679)
2. The basement wall has mold and water damage. The water infiltration appears to be coming from both the external walls and from the top of the wall/ceiling from the main floor. (Photo Nos. 4680-4685)
3. Corrosion on the bottom of the metal doors and door frame at the base section. (Photo No. 4695)
4. Corrosion on steel members supporting equipment. (Photo No. 4725)
5. Water marks on the ceiling due to pipe openings with 90-degree bends facing the ceiling. (Photo Nos. 4706-4707)
6. A running water mark on the wall. (Photo No. 4730)
7. Surface corrosion on the exposed steel beams. (Photo Nos. 4733, 4745)
8. One crack on the main floor slab. (Photo No. 4710)
9. The handrail is starting to corrode. (Photo No. 4690)
10. The kicker plate is falling off along the perimeter of the meeting room wall. (Photo Nos. 4686, 4691)
11. Cracks on the wall in the stairwell. (Photo Nos. 4746, 4749)

On the Main Floor we noted:

1. The carpet appears to be dirty and there are stockpiles of damaged ceiling material, insulation, and garbage. (Photo No. 4885)
2. Mold appears on most of the wall surfaces. (Photo No. 4773)
3. Mold and water marks appear on most of the ceiling area (Photo Nos. 4837-4845)
4. The door lock to janitor room is damaged. (Photo No. 4766)
5. There is wood paneling detaching from the wall near the reception desk. (Photo Nos. 4782-4783)
6. An air vent panel detached and on the ground. (Photo No. 4785)
7. In Librarian Room No. 1, three (3) major cracks/fractures on the concrete masonry unit (CMU) wall with gaps of approximately 0.14 inches. Cracks start from two (2) feet above the floor and extend beyond ceiling elevation. (Photo Nos. 4816-4823)
8. Cracks on the dry wall, close to the ceiling, in the east corridor. (Photo Nos. 4825, 4851)
9. The exposed structural steel beams appear to have rust. (Photo No. 4826)
10. Ponding water in the back Lounge and the Adult Reading Room. (Photo Nos. 4830, 4892)
11. Vertical cracks on walls in the rear lounge, the expansion joints along the north wall of the Juvenile Reading Room, and near the ceiling of the Juvenile Reading Room. (Photos 4836, 4846, 4854, 4922, 4935)
12. Wall paint water damages at several locations throughout the building. (Photo Nos. 4848, 4898)
13. Cables securing light fixtures appear to be corroded. (Photo No. 4852)
14. Exposed wood joists appear to be experiencing cycling of dry and wet and mostly appear to be dark on surface with possible mold. However, they seem to be structurally good for service. (Photo No. 4863)
15. Plywood board panels seem to be impacted by water. (Photo No. 4888)
16. The heating board is detached from the wall in the Adult Reading Room. (Photo No. 4877)
17. Insulation damage in most exposed areas. (Photo No. 4890).
18. Ceiling material damage in many areas of the ceiling in the main rooms of the building. Falling ceiling or water marks appear everywhere. (Photo No. 4803)
19. Kicker plate is detached from the wall in the northwest corner of the Adult Reading Room. (Photo No. 4897)
20. Moisture in many of the windows throughout the building, indicating window seals that are beyond their useful lifespan. (Photo No. 4981)

Building Exterior Observations

In the exterior area we noted:

1. Brick damage due to weathering. (Photo Nos. 5005-5006, 5030-5031, 5040-5042, 5051)
2. A depression area near a down spout discharge area. A water flow channel due to seepage was formed in the same area. There is no positive drainage at this location. (Photo Nos. 5043-5044).

3. Mortar and expansion joint damages due to weathering effects around the perimeter of the building. (Photo Nos. 5008, 5010, 5013, 5017, 5018, 5019, 5052).
4. The sealant around some of the doors was beyond its useful lifespan. (Photo No. 5009).
5. Down spout bottom section was missing. (Photo No. 5015)
6. Electrical outlet covers were missing at one location. (Photo No. 5020).
7. Concrete block damage for entrance on the northeast side of the building. (Photo No. 5021)
8. The sealant around the windows was beyond its useful lifespan. (Photo Nos. 5022-5024)
9. Site grading issues along the west side of the north wall of the building, causing drainage issues. (Photo Nos. 5025, 5027, 5029, 5033, 5048-49)
10. Animal hole near the northwest door to the building. (Photo Nos. 5035-5037)
11. A separation in the concrete sidewalk at the entrance to the yard at the northwest corner of the building. (Photo No. 5038)
12. Water marks on brick, implying overflow from the eavestrough.
13. A sidewalk crack on the south side of the building. (Photo No. 5055)
14. Flash deformation along the south roof line of the building. (Photo No. 5056)
15. Door trim damage at the west entrance door. (Photo No. 5045)

Representative photos of the building exterior observations can also be found in Appendix A.

Roof Inspection with Drone:

On the Flat Roof-Parking Lot Side we observed:

1. Tree leaves on flat roof and eavestrough. (Flat Roof Nos. 1, 43)
2. Damage of side edge. (Flat Roof Nos. 7-10, 12)
3. Shingle damage. (Flat Roof Nos. 11, 13, 25, 26)
4. The flat roof has ponding water. (Flat Roof Nos. 19, 22-24, 50, 56)
5. Settlement of roof area. (Flat Roof No. 24)
6. Flash panel damage. (Flat Roof Nos. 47-48, 51)

On the Flat Roof - Plymouth Roadside we identified:

1. Tree leaves on flat roof and eavestrough. (Flat Roof Nos. 1, 23, 45)
2. The flat roof has ponding water. (Flat Roof Nos. 1-5, 21, 62, 71)
3. Flash panel damage detachment. (Flat Roof Nos. 24, 33, 61)
4. The drainage inlet was blocked with tree leaves. (Flat Roof No. 47)
5. Sealing strip detachment. (Flat Roof Nos. 29, 37).
6. Sealing issue. (Flat Roof No. 31)
7. Holes on flat roof. (Flat Roof Nos. 35, 49)

On the Flat Roof - Woodring Ave side we noted:

1. Tree leaves on flat roof and eavestrough. (Flat Roof Nos. 28, 29, 40)

2. Sludge accumulation around drain inlet. (Flat Roof No. 6)
3. Damage of side edge. (Flat Roof Nos. 30, 31, 32)
4. The flat roof has ponding water. (Flat Roof Nos. 3, 9, 25, 26, 27, 33, 34-43, 44)
5. Flash panel damage detachment. (Flat Roof No. 45)
6. Sealing strip detachment. (Flat Roof Nos. 7, 10, 11, 13, 18, 20, 21, 22).
7. Shingle damage. (Flat Roof Nos. 30-31)

On the Shingle Roof - Loveland St. Paring Lot we found:

1. A loose piece of shingle (Shingle -Loveland/Parking Nos. 1, 40, 44)
2. Shingle detachment (Shingle -Loveland/Parking No. 13)
3. Damage of shingle piece (Shingle -Loveland/Parking Nos. 16, 36, 47)
4. Cracks on shingles (Shingle -Loveland/Parking Nos. 25-26)
5. Detachment of shingle was found (Shingle -Loveland/Parking Nos. 27, 40)

On the Shingle Roof - Woodring Ave we observed:

1. Loose piece of shingle. (Shingle Area No. 1.)
2. Damage of shingle piece. (Shingle Woodring Ave Nos. 7, 8)
3. Cracks on shingles. (Shingle Woodring Ave No.)
4. Detachment of shingle. (Shingle Woodring Ave No. 10, 11, 15)
5. Drain Inlet was clogged with tree leaves. (Shingle Woodring Ave No. 21)

Photos of the typical conditions of the roof are included in Appendix A.

As indicated previously, raw inspection photos are available digitally for reference. A map showing the damage of the building is included in Appendix B.

RECOMMENDATIONS

The followings are our Recommendations:

Roof and Ceiling:

1. Replace the roof completely including the flat roof area. Based on email communication with Owner, the roof is more than 35 years old. The typical shingle roof's service life is approximately 20-25 years. In addition, it is apparent that there is a lot of water penetration and infiltration through the roof. Our inspection photos also show deterioration of roof in both shingle areas and flat roof areas. Additionally, we recommend that for flat roof area, the drainage be improved or modified with necessary slope toward the drain inlets.
2. Repair damaged flash panels.
3. The condition of the plywood boards underneath the roof is unknown. Based on the visibly water-damaged areas of the ceiling, there are significant areas of plywood that have been exposed to moisture for several years. The City should include an allowance for plywood board replacement at 30-50% of the total area.

4. Insulation under the roof appears to be in bad condition for the areas exposed. It likely has mold due to moisture accumulation within the insulation material. All insulation should be replaced.
5. The ceiling of the entire building will need to be replaced due to considerable damage and mold issues. This includes both the drop ceiling and drywall portions of the ceiling.
6. Structural steel appears to have been exposed to moisture also, and the surface will need to be sand blasted and coated with a zinc-rich primer.
7. Wood truss structures appear to be in good condition. However, the wood truss structure will need to be inspected closely after the structures are exposed with roof and ceiling removal. We recommend that City set an allowance for minor wood truss structural repair.

Main floor walls:

1. The cracks on the walls can be repaired with epoxy injection. All internal wall areas need to be repainted after the mold issue is completely resolved.
2. Damaged portions of flashing and sealant of windows should be replaced.
3. Most of the windows appear to be in good to fair conditions. Some of the windows will need to be treated to remove moisture and sealed off properly. The City can develop an O&M plan to maintain or repair, as necessary. No cost is included in this report for window maintenance, and we recommend that the City establish O&M budget for this portion.

Floor:

1. The whole main floor carpet should be replaced completely due to mold concern. Additional inspection of the sub-floor will need to be completed due to the potential for mold growth underneath the carpet.
2. One wood flooring panel will need to be restored to match the existing.
3. The crack on one precast concrete floor panel will need to be repaired via epoxy injection.

Basement:

1. The basement ceiling will need to be completely replaced due to water damage, aging, and mold issues.
2. The basement walls will need to be repainted after the mold issue is resolved.
3. Install an exterior perimeter drainpipe around the basement exterior wall. Water from the drainpipe can be discharged to an indoor sump pump as an economical solution or connected into a nearby storm sewer system. Also, a layer of water barrier will need to be installed on the exterior face of the perimeter wall to prevent water infiltration. Based on our observation, the water infiltration not only comes from the roof but also from the exterior basement walls of the building. It is evident that there is a lack of positive drainage around the building causing water penetration into the basement. Perimeter drainpipe will need to have gravel bedding wrapped with geotextile. After the moisture barrier is installed, the trench will be backfilled and compacted. Disturbed areas will need to be restored.
4. It would be difficult to install the drainpipe and moisture barrier on the north wall since it is within the building area. We would expect that the water infiltration from the north wall would stop with proper site drainage improvement to achieve positive drain. If not, internal vapor barrier with floor trench drainpipe will need to be installed. This will require cutting the concrete floor at the toe of exterior wall by around six (6) inches wide and eight (8) inches deep to install a 4-inch perforated pipe and backfill with gravel to drain the infiltrated water to the existing pump sump. Further investigation may need to be completed to confirm

- whether a drainpipe would be required or not for the north wall.
5. A maintenance free dehumidifier should be installed in the basement to ensure an acceptable moisture level in basement to prevent future mold issues. However, this is part of the mechanical cost item related to HVAC and the cost is not included in our engineering estimate in this report.
 6. The area within ten (10) feet from the perimeter of the building needs to be re-graded to achieve positive drain. After regrading, the site should be sodded.
 7. Replace all kicker plates.
 8. Sand blast handrails and coat with zinc rich primer.
 9. Sand blast steel beams and coat with zinc rich primer.

At the time of the site visit and inspection, the basement floor was still wet and covered with a layer of sludge, as a result, it was not possible to confirm if there was any water infiltration through the basement floor or not. Based on the available record drawings, a vapor barrier was not installed during construction; this poses a substantial risk if there is a shallow ground water table under the basement. Our engineering probable cost estimate does not include the mitigation of basement floor water-sealing due to unknown conditions.

Building Exterior wall:

1. Repair exterior brick wall, epoxy grout or motor grout all cracks grouted to seal off water.
2. Treat the animal hole properly with backfilling.
3. Repair concrete damage at the entrance.
4. Repair concrete walkways.

Additional works by others:

The following work items are beyond the scope of this project. The City may need to retain other professionals, specifically:

1. Mechanical Engineer to evaluate HVAC systems, piping, toilets and determine the scope of work for repair or replacement and moisture control of the building.
2. Electrical Engineer to evaluate electrical and control system and determine the scope of work for repair or replacement.
3. Mold remediation professional to evaluate and determine the scope of work to resolve mold issues.
4. Additionally, we recommend City to assign budget for necessary furniture replacement.

To assist you with the decision regarding the building's rehabilitation, we have developed a conceptual-level Engineer's Opinion of Probable Cost Estimates for the suggested repairs as shown below.

Please note that NTH's cost estimate **does not** include mold treatment, mechanical, electrical and control items. Replacement of furniture is also not included in this estimate. As discussed above, the City will need to retain other professionals to perform an evaluation for these items.



NTH's cost estimate is for preliminary purpose only. For construction cost, we recommend that an RFP package be prepared and issued for competitive prices. We can assist the City with developing an RFP package under a separate scope of work.

COST ESTIMATE

Item	Description	Item Detail Cost	Item Sub total
1	Roof and Ceiling		\$ 361,447
1.1	Roof replacement	\$ 171,451	
1.2	Damaged flash panel replacement	\$ 800	
1.3	Plywood board replacement (30% of roof)	\$ 18,800	
1.4	Roof insulation replacement	\$ 100,264	
1.5	Ceiling replacement	\$ 50,132	
1.6	Steel structural coating	\$ 10,000	
1.7	Wood truss structures repair	\$ 10,000	
2	Main Floor Wall		\$ 77,250
2.1	Wall crack repair	\$ 4,800	
2.2	Window flashing and sealant	\$ 450	
2.3	Wall repainting	\$ 72,000	
3	Floor		\$ 113,997
3.1	Carpet replacement	\$ 112,797	
3.2	Wood panel restoration	\$ 1,000	
3.3	Precast concrete crack repair	\$ 200	
4	Basement		\$ 155,976
4.01	Basement ceiling replacement	\$ 2,916	
4.02	Basement wall repainting	\$ 12,960	
4.03	Basement exterior perimeter drain pipe installation	\$ 22,800	
4.04	Basement wall exterior site regrading	\$ 90,000	
4.05	Basement wall exterior moisture barrier installation	\$ 7,500	
4.06	Basement Interior Vapor barrier Installation	\$ 3,800	
4.07	Basement concrete trench and drain pipe installation	\$ 3,800	
4.08	Basement vapor barrier protection wood panel finish	\$ 7,600	
4.09	Stair well wall crack repairs	\$ 1,600	
4.11	Kicker plate replacement	\$ 500	
4.12	Handrail coating	\$ 500	
4.13	Steel beam coating	\$ 2,000	
5	Exterior Area		\$ 9,000
5.1	Exterior brick wall repair	\$ 5,000	
5.2	Animal hole treatment	\$ 1,000	
5.3	Concrete damage repair	\$ 1,000	
5.4	Concrete walkway repair	\$ 2,000	
6	Contractor Mob/Demo	\$ 20,000	\$ 20,000
7	Building waste disposal	\$ 50,000	\$ 50,000
	Subtotal:		\$ 787,670
	Contingency (30%)		\$ 236,301
	Engineering services		\$ 39,383
	Construction management services		\$ 70,890
	Total:		\$ 1,134,245

CONCLUSION

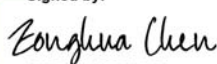
Based on our review of the subject property, we consider the buildings' structure system to be in fair to bad condition after 60 years of service and several years of exposure to weather conditions. Significant renovation work will need to be completed to extend the building's life. The following is a summary of our findings.

- No major issues were identified for the building foundation except ground water infiltration. As such, we proposed a water/vapor barrier and perimeter drainpipe be installed for the basement area. Site re-grading to achieve positive drain will need to be done to prevent future infiltration.
- Mold in the building will be the major concern; we recommend that City hire qualified mold remediation experts to resolve the mold issue.
- The roofing system is beyond its service life. We recommend the complete replacement of the roof and modifications to ensure a positive drain in the flat roof area. Eavestrough and roof drains will need to be inspected seasonally. We also recommend partial replacement of the plywood board layer, and complete replacement of insulation of the building.
- We recommend complete replacement of the ceiling for both the main floor and basement as these are contaminated with mold and in extremely bad condition.
- We recommend that the internal wall be repainted after the mold issue is resolved.
- We recommend that an allowance be set aside for possible structural repairs of the truss system and steel beams.
- We recommend all damages as identified in this report be repaired properly.
- Our conceptual-level Engineer's Opinion of Probable Cost Estimates for the suggested repairs and remediation is in the order of \$1,135,000.

We appreciate the opportunity to be of service to you. Should you have any questions, please contact Zonghua Chen at 248-916-6877.

Sincerely,

NTH Consultants, Ltd.

Signed by:

E6DE47F783E346C...
Zonghua Chen
Principal Engineer

Signed by:

2261F01909FB41F...
Karen W. Okonta
Project Manager

ZC/KO/dc

Attachments

Appendix A: Photo Log

Appendix B: Field Schematic Drawings



APPENDIX A

Site Visit Photos

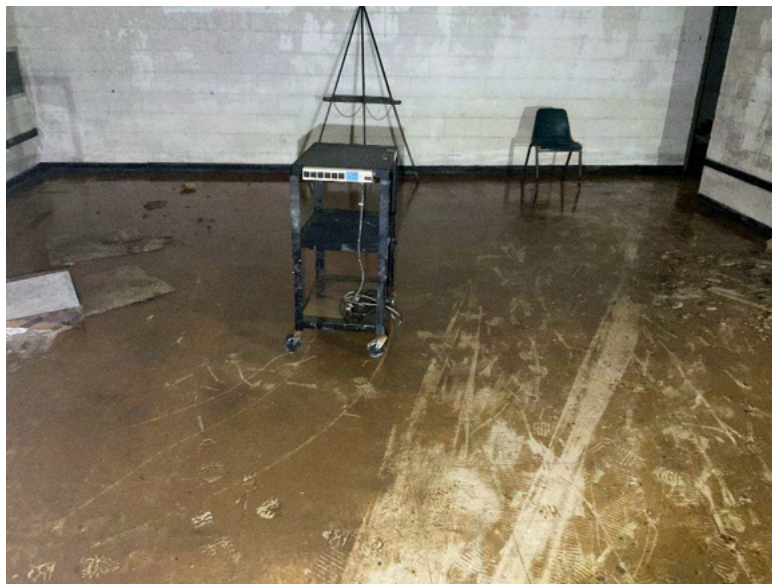


PHOTO LOG

Basement:



Basement Ceiling – Mold (Photo No. 4682)



Basement Floor – Sludge (Photo No. 4679)



Basement – Ceiling panel missing (Photo No. 4684)



Basement – Kicker plate (Photo No. 4691)



Basement Wall - Paint damage and mold (Photo No. 4718)



Basement Wall – Mold (Photo No. 4719)



Basement wall – Moisture Infiltration (Photo No. 4688)



Basement Ceiling – Water infiltration from first floor (Photo No. 4696)



Basement Wall Mechanical Room – Water infiltration through wall (Photo No. 4716)



Basement – Mechanical Room floor (Photo No. 4723)



Basement – Steel beam corrosion (Photo No. 4733)



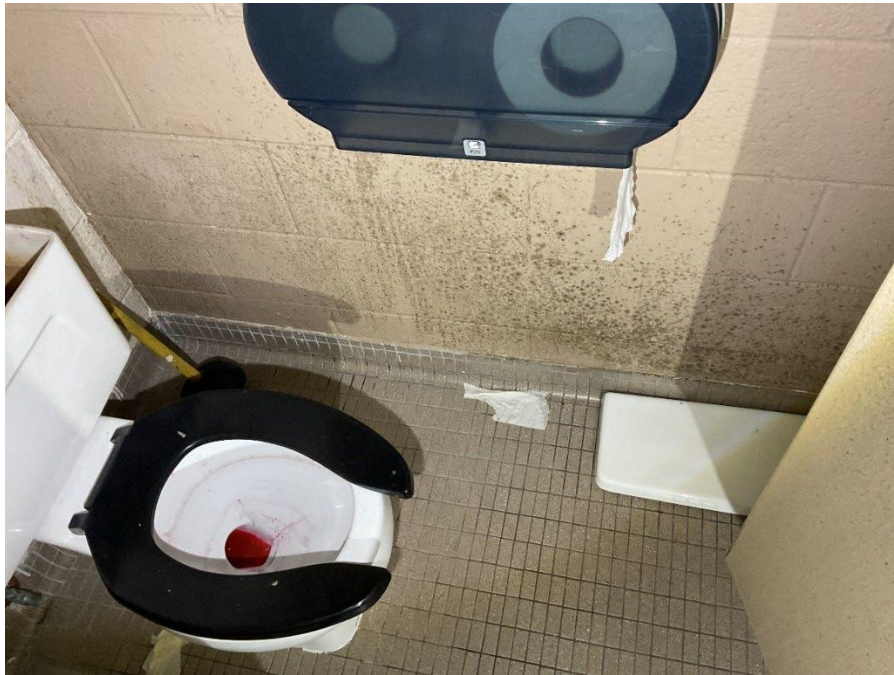
Basement Ceiling – Damage insulation with mold (Photo No. 4754)



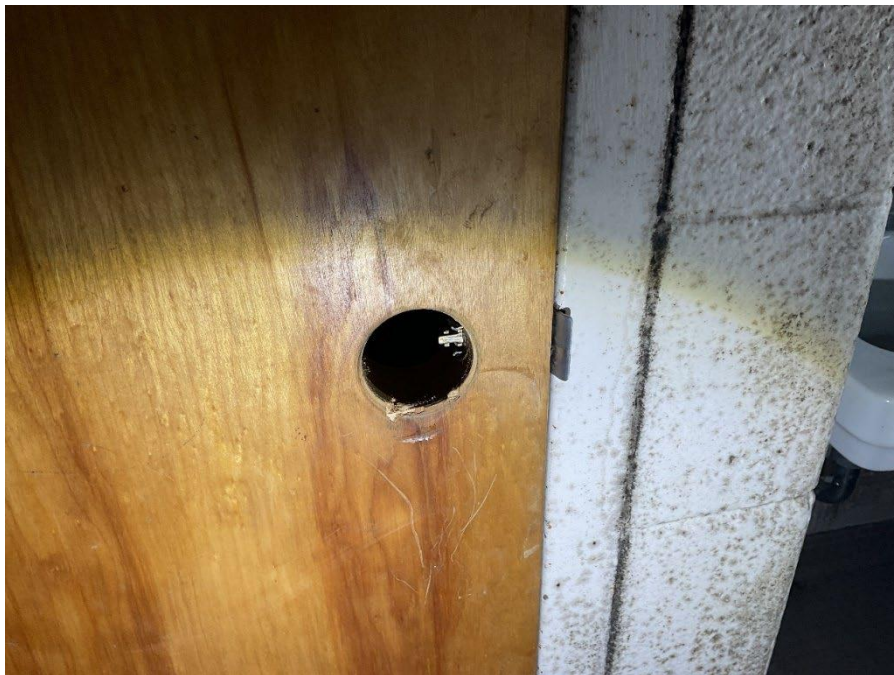
Stair Well – wall cracks/rusty handrail (Photo No. 4749)



Main Floor:



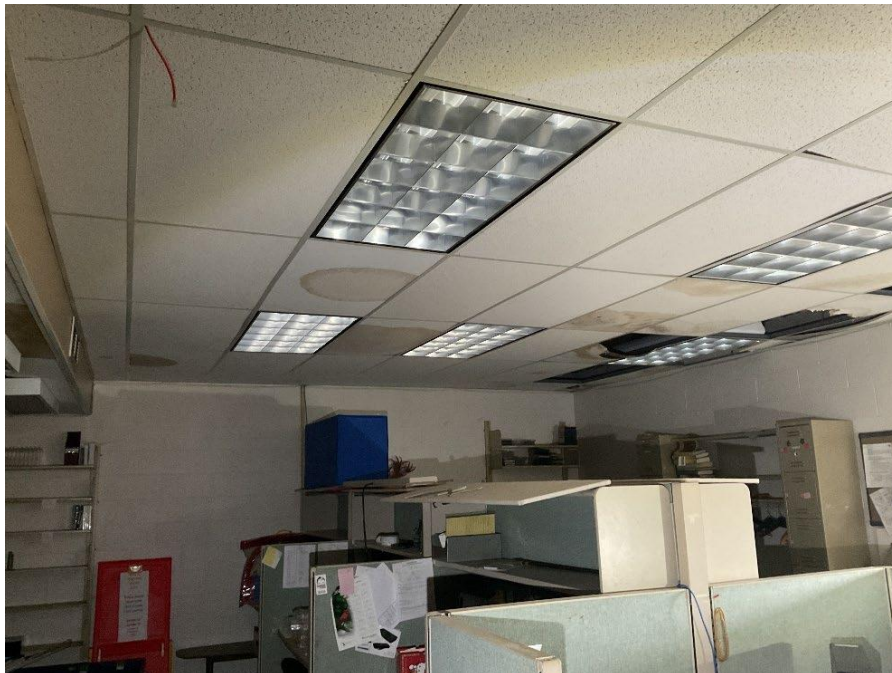
Main Floor Restroom – Mold on wall (Photo No. 4759)



Main Floor Janitor Room – Lock damage / mold on wall (Photo No. 4766)



Main Floor Carpet – Mold and stockpiled with ceiling material (Photo No. 4784)



Main Floor Work Room Ceiling - Water damage (Photo No. 4800)



Main Floor Work Room Ceiling - Water damage (Photo No. 4804)



Main Floor – Librarian Room – Cracks on wall/ water damage on ceiling (Photo No. 4822)



Main Floor Lounge Room – Water mark on floor (Photo No. 4831)



Main Floor Ceiling – Typical water damage (Photo No. 4838)



Main Floor – steel beam corrosion (Photo No. 4840)



Main Floor Wall – Water damage (Photo No. 4848)



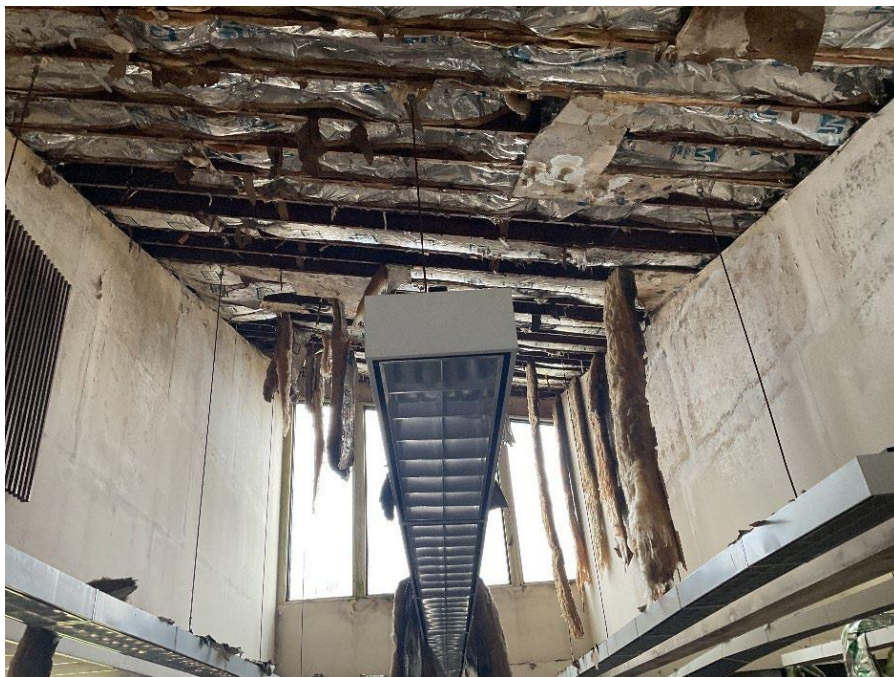
Main Floor Ceiling - Mold (Photo No. 4852)



Main Floor Lounge – Ceiling damage/Insulation damage/ mold on wall (Photo No. 4863)



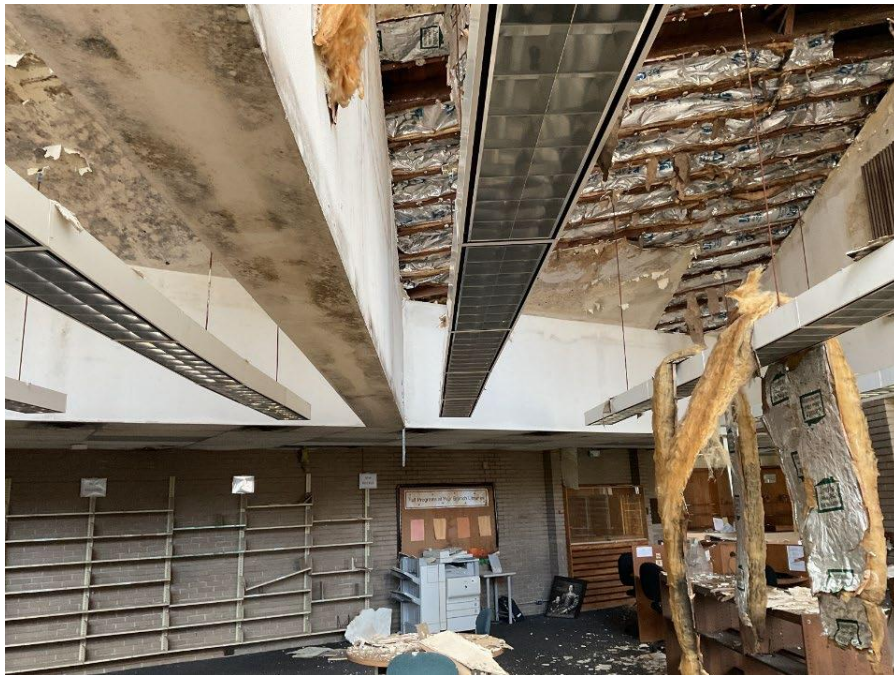
Main Floor – Heating panel damage (Photo No. 4876)



Main Floor - Ceiling damage (Photo No. 4880)



Main Floor – Floor Conditions (Photo No. 4885)



Main Floor - Ceiling damage/ Insulation damage (Photo No. 4896)



Main Floor – Kicker plate damage (Photo No. 4897)



Main Floor - Ceiling damage/ insulation damage/ mold (Photo No. 4903)



Main Floor – Ceiling mold (Photo No. 4911))



Main Floor Adult Reading Room – Wall crack (Photo No. 4921)



Main Floor – Floor conditions (Photo No. 4967)



Main Floor – Floor conditions (2) (Photo No. 4975)



Main Floor – Moisture in windows (Photo No. 4981)



Building Exterior:



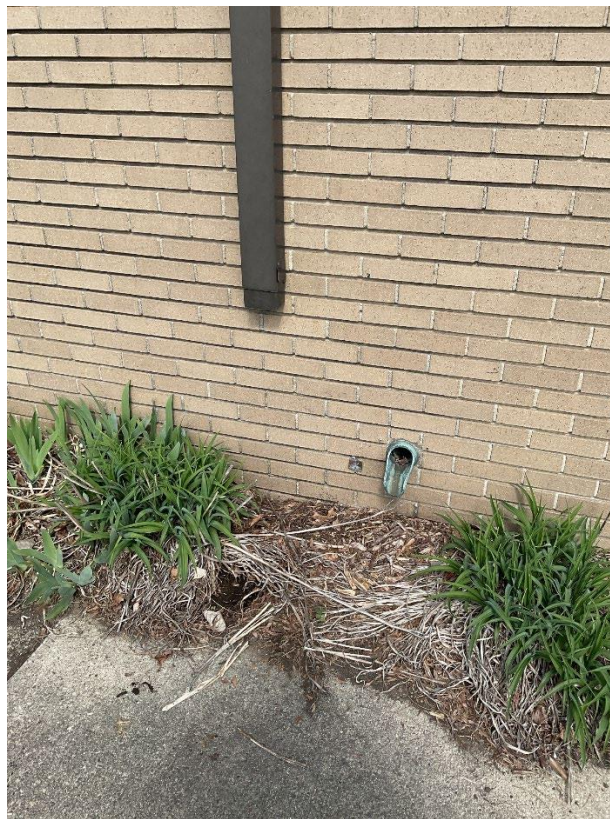
Exterior Wall - Brick damage (Photo No. 5005)



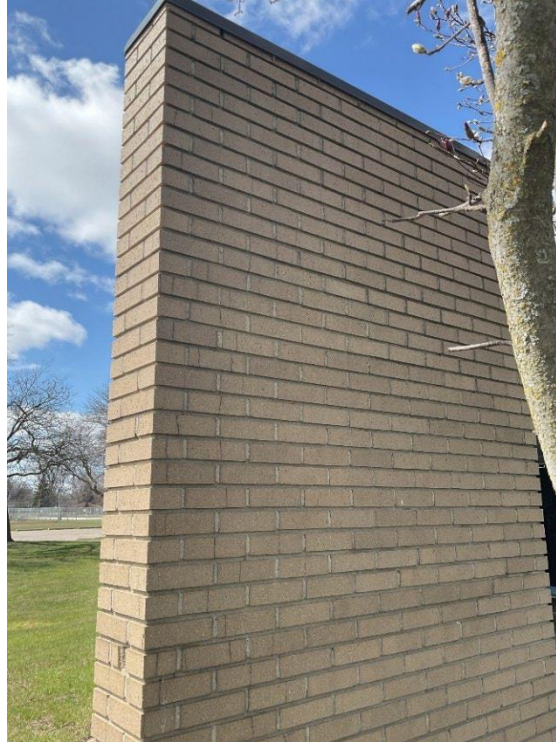
External Area - Down spout drain with no positive drain on ground (Photo No. 5007)



Exterior Wall – Mortar damage (Photo No. 5008)



Exterior Area - Down spout loose bottom section (Photo No. 5015)



Exterior Wall – Brick damage (Photo No. 5018)



Electrical Outlet – Loose cover (Photo No. 5020)



External Area – Concrete damage (Photo No. 5021)



Exterior - Window seal damage (Photo No. 5022)



External Area - Evidence of water seepage at toe of wall (Photo No. 5025)



External Area – Local depression area due to drainage (Photo No. 5029)



External Area – Brick damage (Photo No. 5030)



External Area – Brick damage (Photo No. 5031)



External Area – Animal hole (Photo No. 5035)



External Area – Concrete damage (Photo No. 5038)



External Area – Depression area, lack of positive drainage (Photo No. 5048)



Exterior Area – Depression area, lack of positive drain (Photo No. 5049)



Exterior area: walkway concrete damage (Photo No. 5055)



Roof:



Flat Roof – Stockpile with tree leaves (Parking Lot Side Photo No. 1)



Flat Roof – Lack of positive drain (Parking Lot Side Photo No. 20)



Flat Roof – Damage at the curb connecting to shingle roof, lack of positive drain (Parking Lot Side Photo No. 23)



Flat Roof – Damage at patching (Parking Lot Side Photo No. 39)



Flat Roof- Damage at edge (Parking Lot Side Photo No. 51)



Flat Roof – Water ponding/ Lack of positive drain (Parking Lot Side Photo No. 56)



Flat Roof – Holes at edge (Plymouth Rd Photo No. 15)



Flat Roof – Potential drain inlet clog (Plymouth Rd Photo No. 23)



Roof – Loose flash panel (Plymouth Rd Photo No. 24)



Flat Roof – Damage of patching repair (Plymouth Rd Photo No. 29)



Flat Roof – Loose flash panel (Plymouth Rd Photo No. 33)



Flat Roof -Water ponding (Plymouth Rd Photo No. 71)



Flat Roof – Lack of positive drain (Woodring Ave Photo No. 2)



Flat Roof – Damage of patching (Woodring Ave Photo No. 8)



Shingle Roof – Loose piece (Loveland St and Parking Lot Photo No. 1)



Shingle Roof – Damaged shingle (Loveland St and Parking Lot Photo No. 37)



Shingle Roof – Loose shingle piece (Loveland St and Parking Lot Photo No. 39)



Shingle Roof – Damaged shingle piece (Loveland St and Parking Lot Photo No. 47)



APPENDIX B

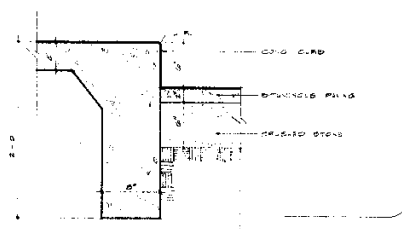
Noble Library Record Plan Set

SCALE: 1" = 10'

PLYMOUTH ROAD

NO.	DESCRIPTION	NO.	DESCRIPTION
1	1.5' WIDE CONC. SIDEWALK	1	1.5' WIDE CONC. SIDEWALK
2	2.0' WIDE CONC. SIDEWALK	2	2.0' WIDE CONC. SIDEWALK
3	3.0' WIDE CONC. SIDEWALK	3	3.0' WIDE CONC. SIDEWALK
4	4.0' WIDE CONC. SIDEWALK	4	4.0' WIDE CONC. SIDEWALK
5	5.0' WIDE CONC. SIDEWALK	5	5.0' WIDE CONC. SIDEWALK
6	6.0' WIDE CONC. SIDEWALK	6	6.0' WIDE CONC. SIDEWALK
7	7.0' WIDE CONC. SIDEWALK	7	7.0' WIDE CONC. SIDEWALK
8	8.0' WIDE CONC. SIDEWALK	8	8.0' WIDE CONC. SIDEWALK
9	9.0' WIDE CONC. SIDEWALK	9	9.0' WIDE CONC. SIDEWALK
10	10.0' WIDE CONC. SIDEWALK	10	10.0' WIDE CONC. SIDEWALK

NO.	DESCRIPTION	NO.	DESCRIPTION
1	1.5' WIDE CONC. SIDEWALK	1	1.5' WIDE CONC. SIDEWALK
2	2.0' WIDE CONC. SIDEWALK	2	2.0' WIDE CONC. SIDEWALK
3	3.0' WIDE CONC. SIDEWALK	3	3.0' WIDE CONC. SIDEWALK
4	4.0' WIDE CONC. SIDEWALK	4	4.0' WIDE CONC. SIDEWALK
5	5.0' WIDE CONC. SIDEWALK	5	5.0' WIDE CONC. SIDEWALK
6	6.0' WIDE CONC. SIDEWALK	6	6.0' WIDE CONC. SIDEWALK
7	7.0' WIDE CONC. SIDEWALK	7	7.0' WIDE CONC. SIDEWALK
8	8.0' WIDE CONC. SIDEWALK	8	8.0' WIDE CONC. SIDEWALK
9	9.0' WIDE CONC. SIDEWALK	9	9.0' WIDE CONC. SIDEWALK
10	10.0' WIDE CONC. SIDEWALK	10	10.0' WIDE CONC. SIDEWALK



1	1.5' WIDE CONC. SIDEWALK
2	2.0' WIDE CONC. SIDEWALK

SITE PLAN
1:500

1:500 - 1:500 - 1:500

1:500 - 1:500 - 1:500

1:500 - 1:500 - 1:500

- TO BE REMOVED
- TO BE REPAIRED
- TO BE REPAIRED
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Gunnar Bir
Assoc
Arch

NEW
SOUTH
LINDA

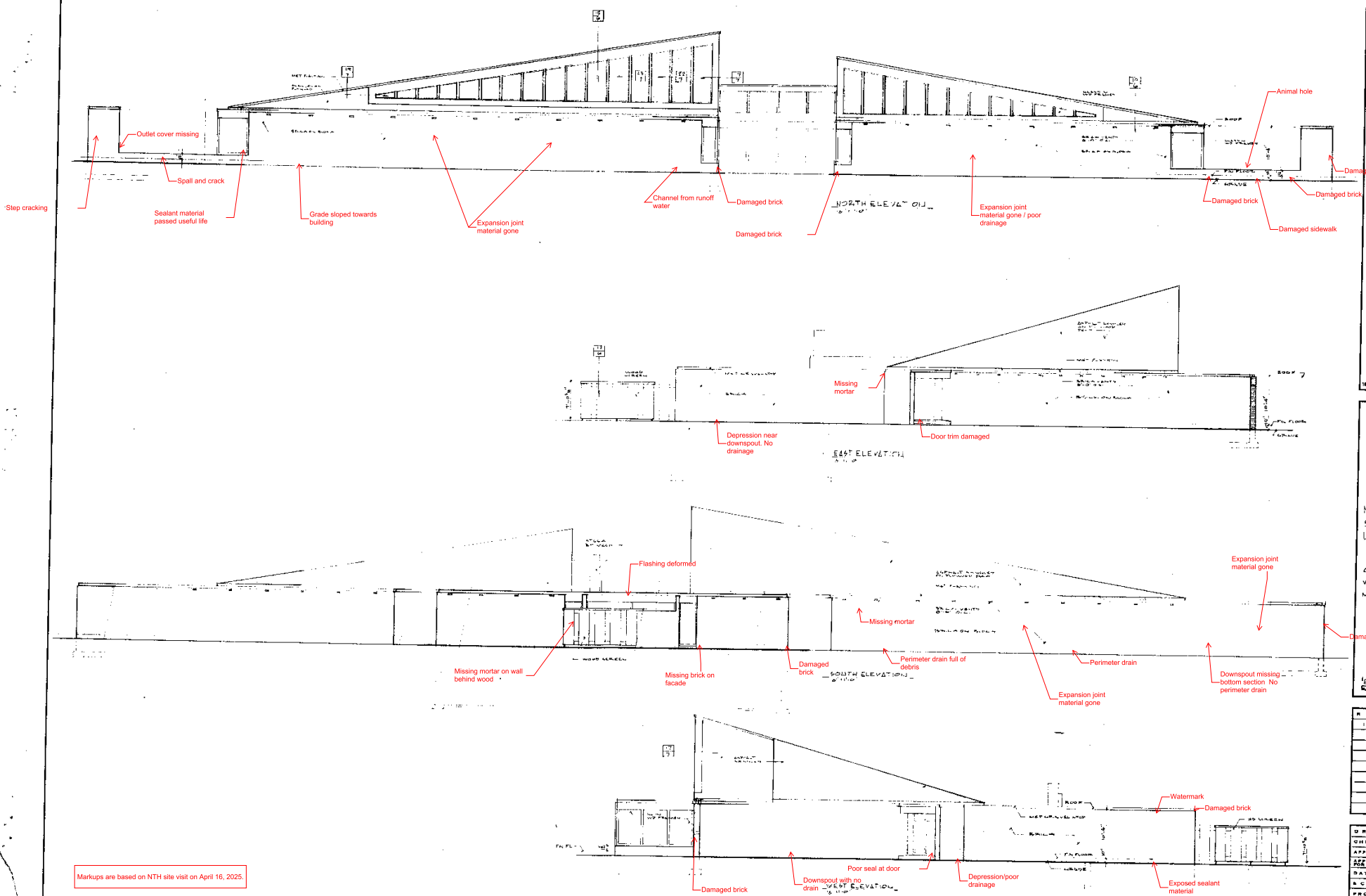
DATE OF
WORK
1/1/2015

SITE PLAN

REVISION	DATE	BY
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

DRAWN	+
CHECKED	+
APPROVED	+
DATE	1/1/2015
SCALE	1" = 10'
PROJECT	1:500

Markups are based on NTH site visit on April 16, 2015.



MARKUPS ARE BASED ON NTH SITE VISIT ON APRIL 16, 2025.

Gunnar Birkert
and
Associates
Architects

100 North Woodward, Birmingham, Michigan 48404
Tel: 844-0804

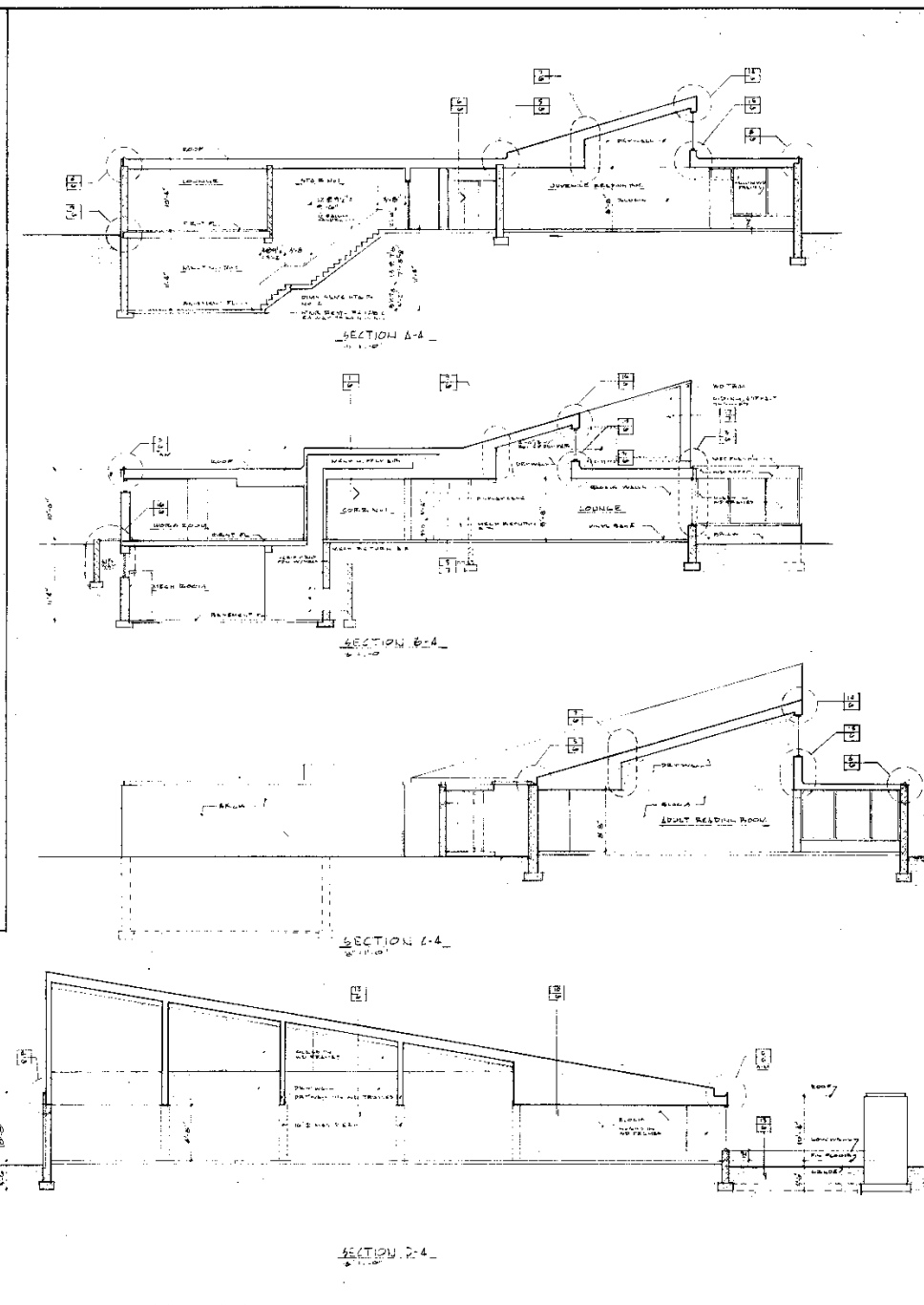
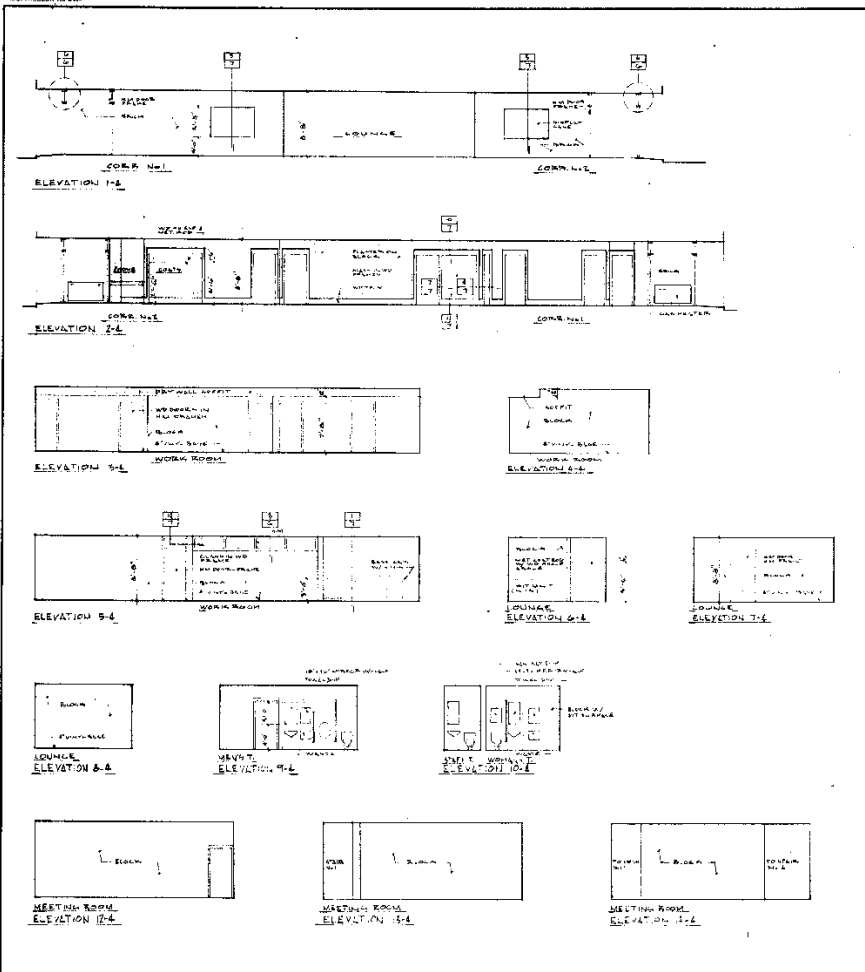
NEW
SOUTH BRANCH
LIVONIA LIBRARY

CITY OF LIVONIA
WAYNE COUNTY
MICHIGAN

1st EXTERIOR
ELEVATION

REVISIONS		
ITEM	DATE	BY

DRAWN BY
CHECKED BY
APPROVED BY
DATE
SCALE
PROJECT
6502



Gunnar Birkerts
and
Associates
Architects

100 North Woodward Birmingham Michigan

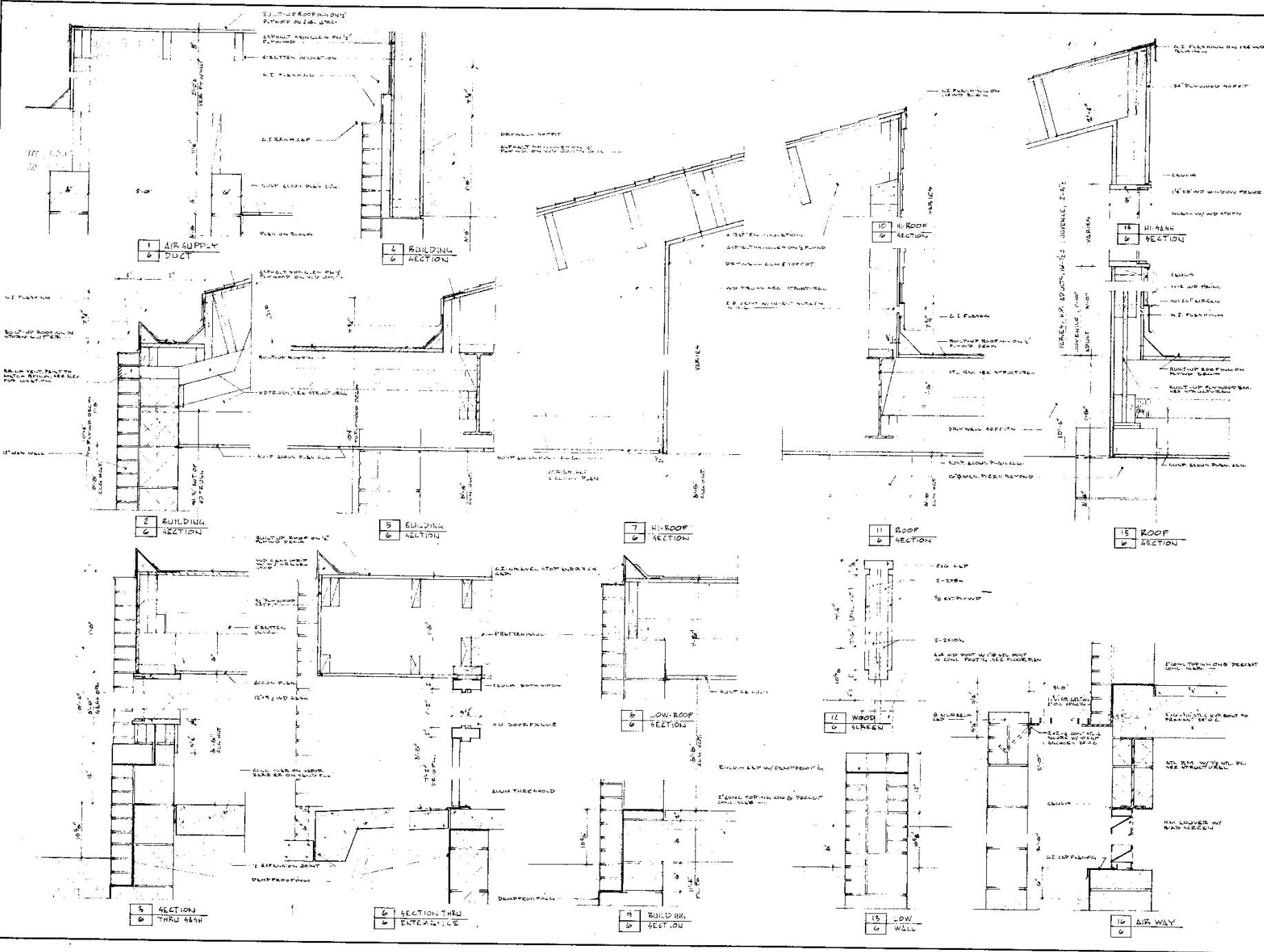
NEW
SOUTH BRANCH
LIVONIA LIBRARY

CITY OF LIVONIA
WAYNE COUNTY
MICHIGAN

INTERIOR ELEVATIONS
SECTIONS

REVISION	DATE	BY

DRAWN Φ
CHECKED
APPROVED
DATE SEPT 18 1985
SCALE
PROJECT
6502



Gunner Birkerts and Associates Architects

100 North Wacker Drive, Chicago, Illinois 60606

NEW SOUTH BRANCH
LIVONIA LIBRARY
CITY OF LIVONIA
WAYNE COUNTY
MICHIGAN

DETAILS

REVISIONS	ITEM	DATE	BY

DRAWN ☒

CHECKED ☒

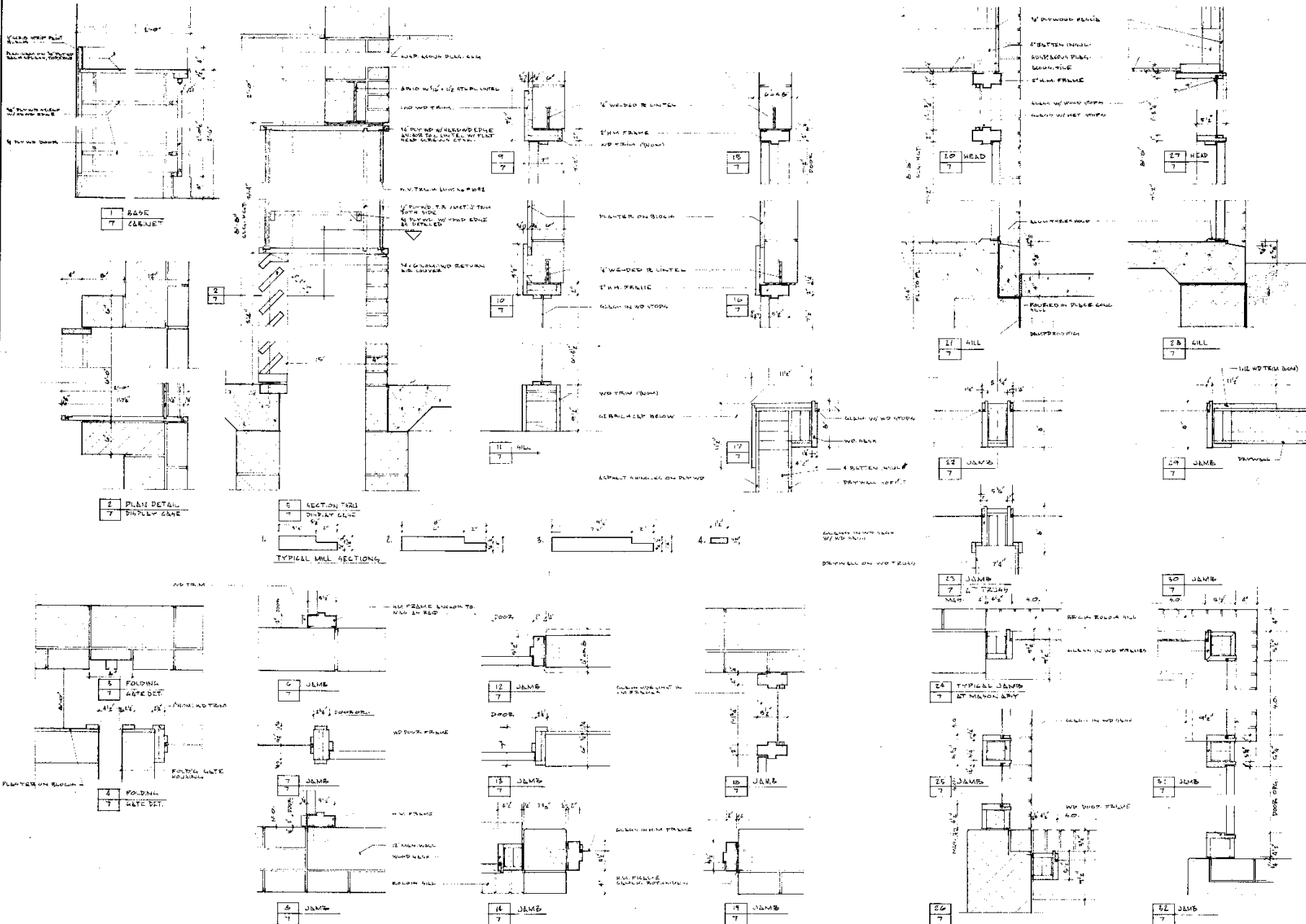
APPROVED ☒

DATE 08/18/95

SCALE

PROJECT

0502



Gunnar Birkerts and Associates Architects

101 E 44th Ave
1000 North Woodward, Birmingham, Michigan

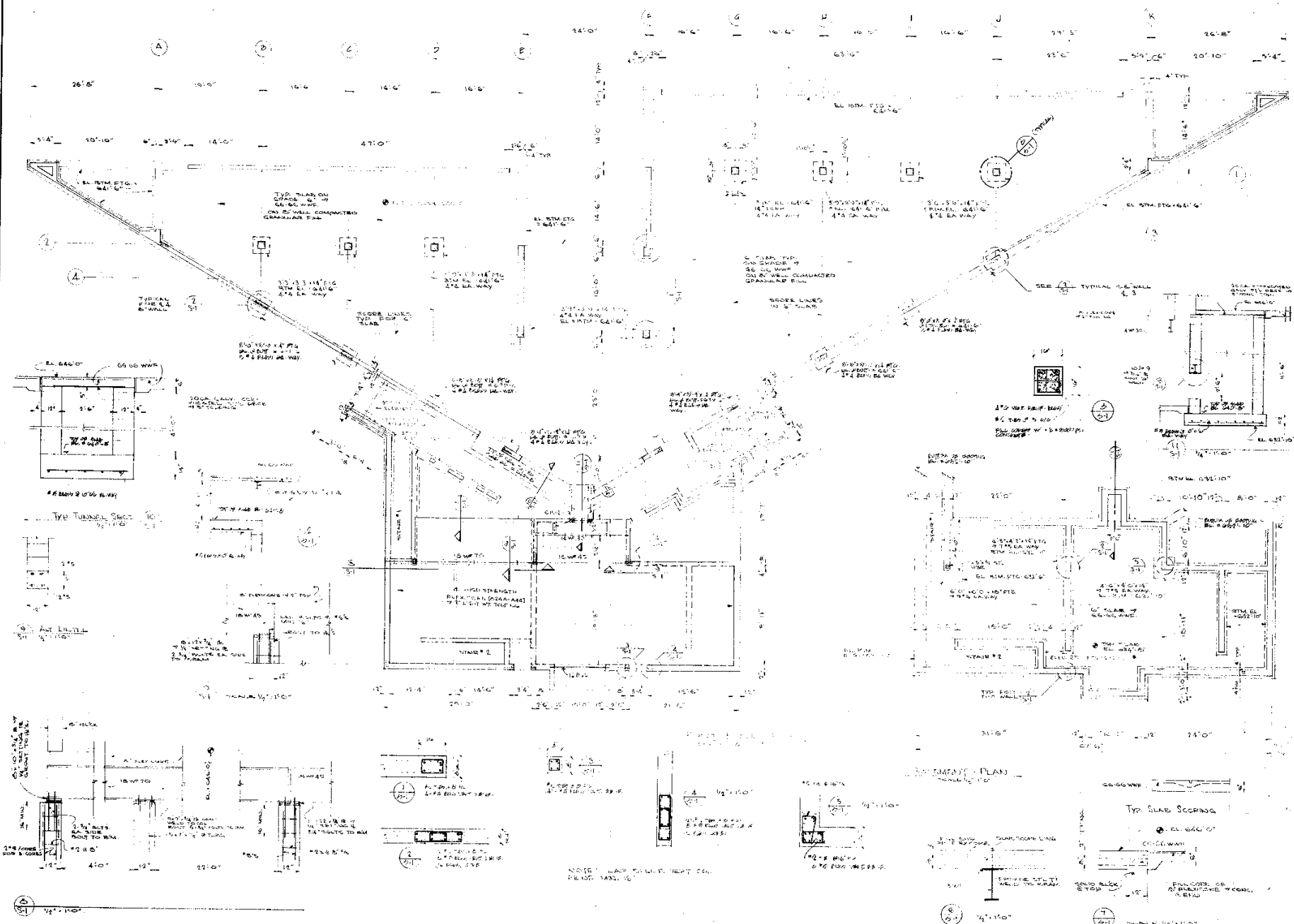
NEW SOUTH BRANCH LIVONIA LIBRARY

CITY OF LIVONIA WAYNE COUNTY MICHIGAN

DETAILS

REVISION	DATE	BY
1		
2		
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DRAWN	✓
CHECKED	✓
APPROVED	✓
DATE	SEP. 15, 1965
SCALE	
PROJECT	7



Gunnar Birkerte and Associates Architects

ROBERT M. DAVIES AND ASSOCIATES
CONS. STRUCT. ENGRS
ANN ARBOR, MICH.

NEW
SOUTH BRANCH
LIVONIA LIBRARY

CITY OF LIVONIA
WAYNE COUNTY
MICHIGAN

FIRST FLOOR PLAN
BASEMENT PLAN
DETAILS

REVISIONS		
ITEM	DATE	BY

DRAWN: T.H. + V.B.
CHECKED: []
APPROVED: []
DATE: SEP 10, 1985
SCALE: []
PROJECT: 6502

S1



Gunnar Birkerts
and
Associates
Architects

ROBERT M. DAVIS
AND ASSOCIATES
CONSULTING ENGINEERS
ANN ARBOR, MICH.

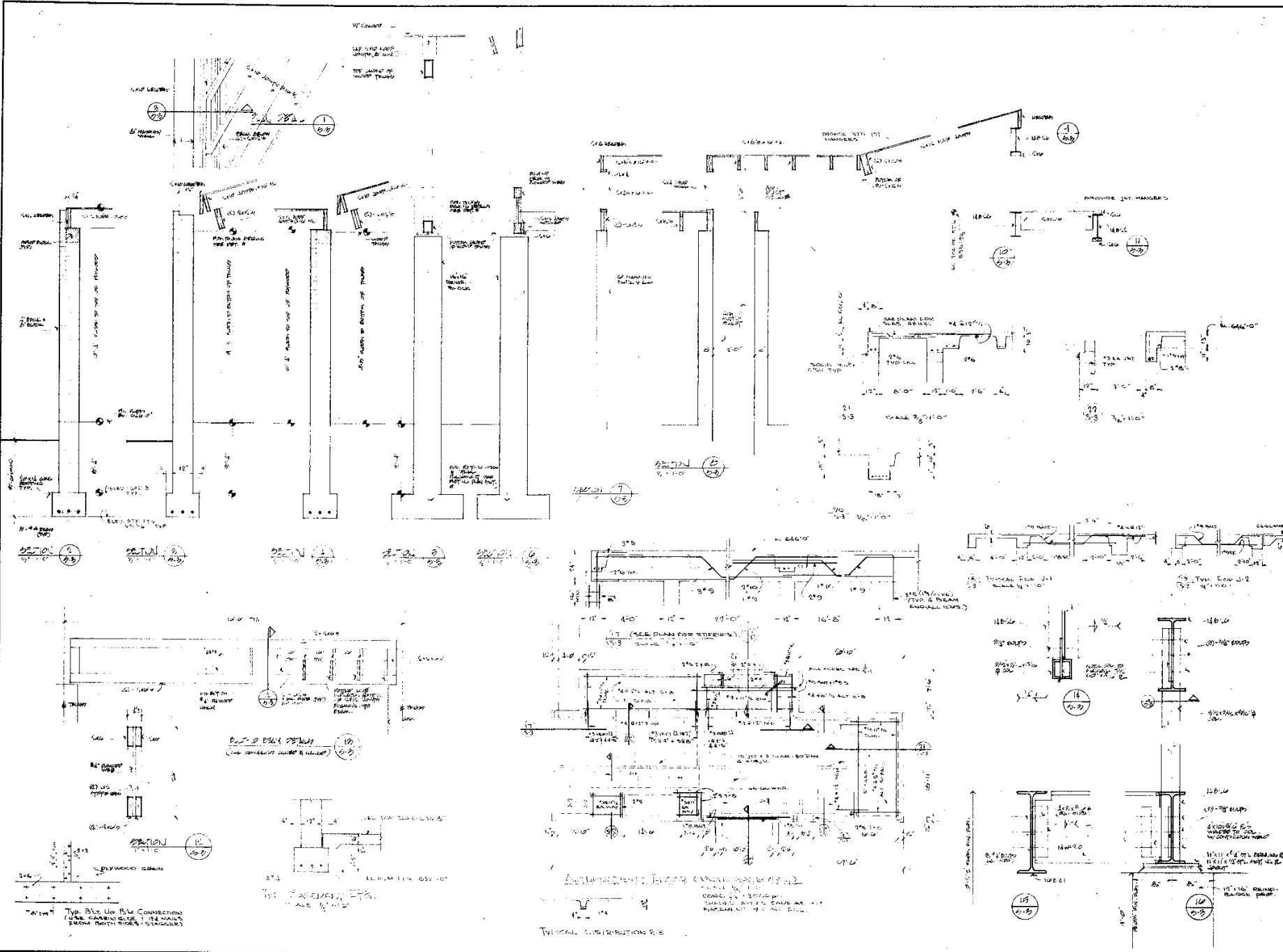
NEW
SOUTH DAVENPORT
LIBRARY

CITY OF DAVENPORT
DAVENPORT, IOWA

FOOT FRAMING PLAN
DETAIL

NO.	DESCRIPTION	DATE
1	REVISED	10/1/60
2	REVISED	10/1/60
3	REVISED	10/1/60
4	REVISED	10/1/60
5	REVISED	10/1/60
6	REVISED	10/1/60
7	REVISED	10/1/60
8	REVISED	10/1/60
9	REVISED	10/1/60
10	REVISED	10/1/60

DRAWN BY: J. B. BIRKERTS
CHECKED BY: J. B. BIRKERTS
APPROVED BY: J. B. BIRKERTS
DATE: 10/1/60
PROJECT: NEW SOUTH DAVENPORT LIBRARY
6002



Gunnar Birkerts and Associates Architects

101 844084
100 North Wacker Drive, Chicago, Illinois

ROBERT H. DARVAS AND ASSOCIATES
CONS. STRUCT. ENGS.
ANN ARBOR, MICH.

NEW SOUTH BRANCH LIVONIA LIBRARY

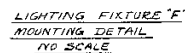
CITY OF LIVONIA
WAYNE COUNTY
MICHIGAN

SECTIONS & DETAILS

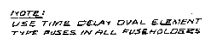
REVISION	DATE	BY

DRAWN: TSP, JND
 CHECKED: []
 APPROVED: []
 DATE: MAY 10, 1985
 SCALE: 1/8" = 1'-0"
 PROJECT: C502

6302 . S A



NOTE:
STUB (3) 3/8" 1" C. FROM EACH FLUSH MOUNTED LIGHTING
PANEL UP INTO ADJACENT CEILING SPACE.



MAIN ELECTRICAL RISE: DIAGRAM
NO SCALE

**Gunnar Birkerts
and
Associates
Architects**

1200 North Woodward Birmingham, AL 35203 tel 8440804

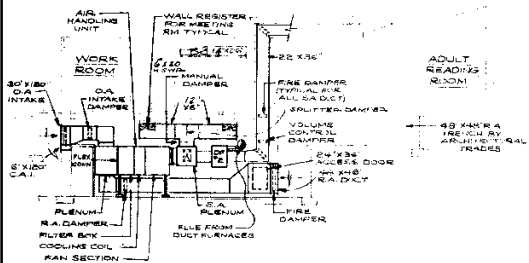
**SIEBEL-SWIECH
ASSOCIATES
CONSULTING
MECHANICAL AND
ELECTRICAL ENGINEERS**

NEW
SOUTH BRANCH
LIVONIA LIBRARY

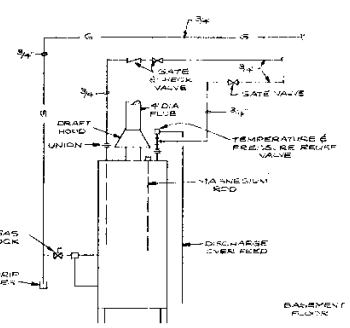
CITY OF LIVONIA
WAYNE COUNTY
MICHIGAN

SYMBOLS; RISER, MISC

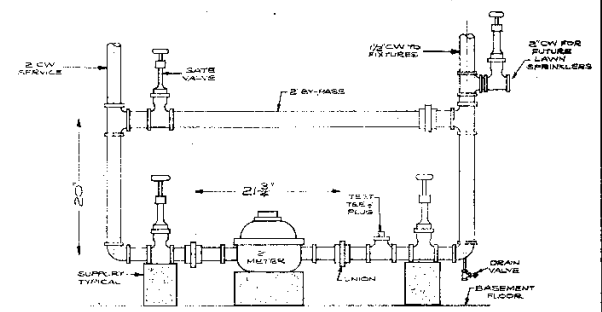
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APPROVED FOR CONSTR	
DATE	25. 4. 1965
SCALE	AS SHOWN
PROJECT	6502



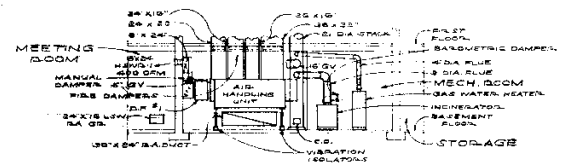
SECTION A-A
SCALE 1/8" = 1'-0"



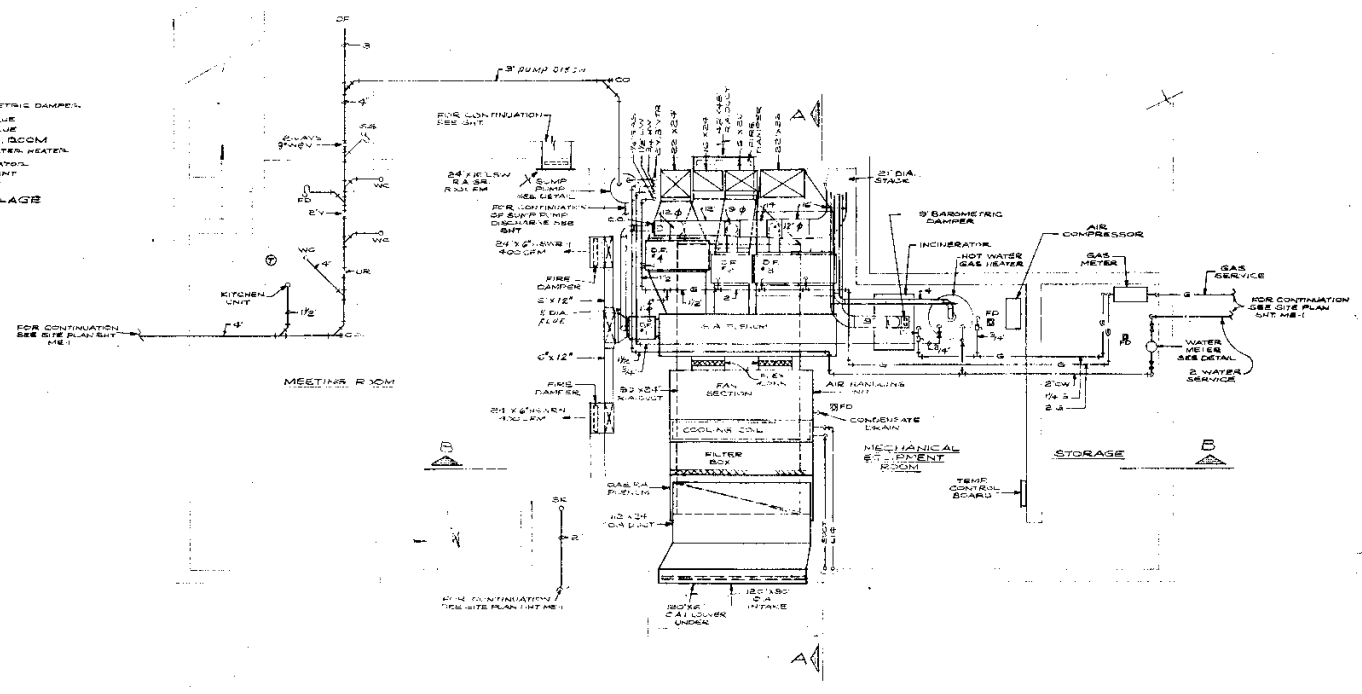
HOT WATER HEATER DETAIL
NO SCALE



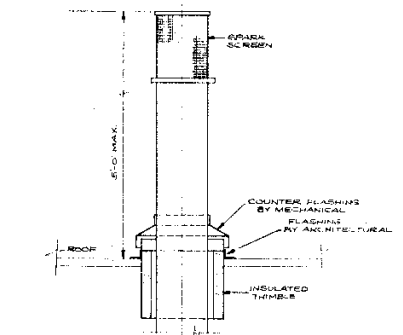
WATER METER DETAIL
NO SCALE



SECTION B-B
SCALE 1/8" = 1'-0"



BASEMENT PLAN
1/4" = 1'-0"



INCINERATOR, WATER HEATER,
& DUCT FURNACE STACK DETAIL
NO SCALE



Gunter Birkerts
and
Associates
Architects

161 4410001
100 North Woodward, Birmingham, Alabama

NEW
SOUTH BRANCH
LIVONIA LIBRARY

CITY OF LIVONIA
WAYNE COUNTY
MICHIGAN

BASEMENT PLAN
SECTIONS AND
DETAILS

REVISIONS		
ITEM	DATE	BY

DRAWN J.D.
CHECKED EGS
APPROVED EGS
DATE OCT 4, 1966
SCALE
PROJECT
6502 M-3



GRILLES, REGISTERS & DIFFUSERS

TYPE	MFG MODEL	REMARKS
MSNR	TITUS L-275	SATIN ALUMINUM FINISH 02/05/86 B.L.G. DAMPER
MSNR-1	TITUS L-270	SATIN ALUMINUM FINISH W/AG-40 FIRE DAMPER
MSNR-2	TITUS L-275	SATIN ALUMINUM FIN-CH 22/5 2-1/2" X 4" X 1/4"
LINEAR DIFFUSER	TITUS ML 25-10 MODEL 11R	SATIN ALUMINUM FINISH 1" SLOT
CEILING DIFFUSER	TITUS TMD-33 SQUARE DIFF PATTERN 4A	BAKED WHITE ENAMEL FIN 34 1" X 4" X 1/4" 02/02/86 TO 02/02/86 SUGGEST 1" X 4" SLOTS
RETURN AIR	TITUS Q-250	SATIN ALUMINUM FINISH
RETURN AIR	TITUS PL-250	SATIN ALUMINUM FINISH W/AG-40 FIRE DAMPER - IN 1/2" X 2" X 1/4" X 1/4" X 1/4"

CEILING EXHAUST FANS

TYPE	MFG MODEL	REMARKS
CEIL. EXH. FAN #1	EMERSON ELECTRIC 22008	2200CFM 68WATT 3 A5Q0
CEIL. EXH. FAN #2	EMERSON ELECTRIC 2210	225CFM 60WATT 2 A5Q D.

GAS WALL FURNACE

TEMCO PREVENT GAS W/L FURNACE 30,000 BTU/HR
INPUT, 21,000 BTU/HR OUTPUT, MODEL NO. 3CB-3

AIR HANDLING UNIT

TRANS. MODEL NO. 21 LOW PRESSURE DRAW THRU
UNIT, 2-20 DW DFC FANS, 16 COOLING @ 2.25 T.H.P.,
30 MAX BAR, 12HP, 220V, 50 HZ, MOTOR, 75% EFF, 1800 RPM, C.V.
COOLING COIL - 222 BX 30.0 SQ FT, 43W MIN, 45" DISTION TRNK
LUTING - 810'OB, 67"WB
LEAVING - 580'OB 36.5"WB

"AIR COOLED CONDENSING UNIT"

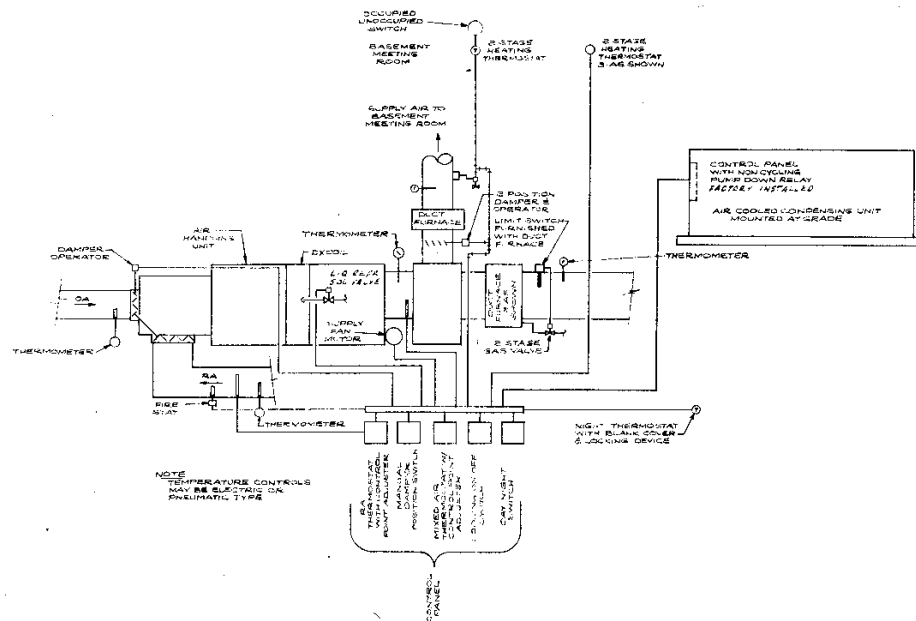
TRANE MODEL 12A400-CAPACITY 40.4 TONS AT 35°
AMB. ENT AIR TEMP, 44°F A/D TEMP, 40.1 KW INPUT
220V, 3Ø, 60~ CONDENSER FAN MOTOR, -5HP, 1750RPM
220V, 3Ø, 60~

DUCT FURNACES

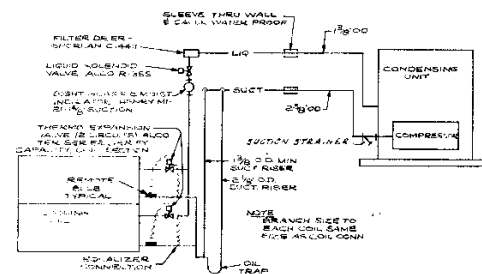
DUCT BURNERS			CFM	FE
DEF1	BE2NCR X-50	50,000 BTU/HI INPUT 40,000 BTU/HI OUTPUT	800	0.20
DEF2	BE2NCR X-100	100,000 BTU/HI INPUT 80,000 BTU/HI OUTPUT	8500	0.25
DEF3	BE2NCR X-400	400,000 BTU/HI INPUT 300,000 BTU/HI OUTPUT	7600	0.21
DEF4	BE2NCR X-850	850,000 BTU/HI INPUT 650,000 BTU/HI OUTPUT	5000	0.20

WATER WALKER

LOCHINVAR BLVD. IN HARRIS GOLF COURSE, ST. LOUIS
65,000 BTH. N. 1/2 E. 1/4 SEC. 10, T. 10N, R. 10E, S. 10E



TEMPERATURE CONTR. DIAGRAM



SCHEMATIC REFRIGERANT PIPING

**Gunnar Birkerts
and
Associates
Architects**

tel 644 0834
1208 north Woodward Birmingham Michigan

NEW
SOUTH BRANCH
LIVONIA LIBRARY

CITY OF LIVONIA
WAYNE COUNTY
MICHIGAN

TEMPERATURE CONTROLS AND SCHEDULES

[illegible]

DRAWN	JD
CHECKED	EGS
APPROVED	EGS
FOR CONSTRUCTION	
DATE	OCT. 4, 1965
SCALE	
PROJECT	
6502	M-4



April 5, 2023

Mr. Jacob Rushlow, PE
Assistant Director of Public Works
City of Livonia
12973 Farmington Road
Livonia, MI 48150

RE: Alfred Noble Library Opinion of Costs

Dear Mr. Rushlow:

In May 2021, OHM Advisors visited the closed Alfred Noble Library building and completed a walkthrough with City staff. Based on the walkthrough and additional materials provided by the City, we prepared a memo dated July 8, 2021, with an of Opinion of Cost and recommendations for repairs as well as a new building alternative and complete demolition. This letter is an update of the Opinion of Cost for the three options: 1) Complete Demolition, 2) Renovation of the building to provide a core and shell building with no specific interior layout, and 3) Construction of a new building of comparable size.

Below is a summary of these three approaches and associated costs:

Option	Description	Cost
1	Building/Site Demolition	\$ 475,000
2	Building Renovation and Site Improvements	\$ 5,510,000
3	New Building	\$ 7,320,000

A further breakdown of the above costs, including general construction, contingency, professional services , and contractor fees are outlined below in the Opinion of Cost section.



Opinion of Cost

Of recent, the current market has been volatile and ever changing as it relates to construction costs. With the costs of materials, , labor, and unknown factors like availability and lead time, the following opinion of costs have taken into consideration higher than normal contingency values as well as included an escalation markup for both labor and materials for an estimated construction time from starting end of 2023 at the earliest. If additional years are considered, there should be escalation costs added to these numbers between 5-6% annually.

1. Demolition of existing building and site clearing

The opinion of cost for demolition of the existing building includes demolition of entire building, removal of foundations and infill of basement area, sidewalks and site garden areas to be removed, general infill grading and seeding of area. It assumes the parking lot is to remain.

No	Description	Cost
1	Building demolition and Infill	\$ 300,000
2	Site	\$ 50,000
3	Subtotal	\$ 350,000
4	Contingency (10%)	\$ 35,000
5	Escalation (4%)	\$ 15,000
6	Testing (8%)	\$ 25,000
7	General Conditions/OH&P (15%)	\$ 50,000
10	Total	\$ 475,000



2. Renovation of existing building and site improvements

The intent of the renovation of the existing building and site improvements is to fully renovate the building to modernize the building envelope and provide an interior core of services and open concept plan for future development.

The following are site work assumptions used for development of this cost:

- Removal and replacement of parking lot pavement and aggregate base, including storm improvements to manage runoff from the new lot to current standards.
- Perimeter drainage at building footings to assist in water management around building. The new drainage system will be connected to existing sewers on site.
- New landscaping.
- New sidewalks with modification to grading areas around the building to improve site drainage.

The following are building component assumptions used for development of this cost:

- Complete tear out of existing space, providing new restroom core for size of building,
- Replacement of building envelope systems such as windows, roofs, and flashings. Existing structure and building enclosure (masonry) would remain with repair work such as tuckpointing and painting.
- Replacement of utility equipment, including mechanical units, power panels, and boilers. MEP distribution systems would be limited to core improvements (restrooms).

The following are items not in the opinion of cost:

- Interior space improvements, including MEP distribution systems and finishes.
- Loose furnishings or equipment.
- Replacement of existing sidewalks other than described above for drainage purposes.

We have included a 30% contingency with the type of renovation work being performed and possible mitigation required as additional areas/materials are exposed. We have also included a 4% escalation cost recognizing the project would not start until 2024 and reflective of continued rise in costs we have been seeing. A testing allowance of 6% is included due to further assessment of material abatement and existing conditions of materials that should be re-tested as work is completed to confirm all work has been done correctly.

No	Description	Cost
1	Building Renovations	\$ 2,835,000
2	Site work	\$ 550,000
4	Subtotal	\$ 3,385,000
5	Contingency (30%)	\$ 1,000,000
6	Escalation/Material Contingency (4%)	\$ 140,000
7	Testing (6%)	\$ 205,000
8	General Conditions/OH&P (10%)	\$ 340,000
9	Professional Fees (13%)	\$ 440,000
10	Total	\$ 5,510,000



3. New building of similar size and function

The new building cost includes cost for a new 13,500 SF building on a green site. Similar lot size with similar parking and site circulations, landscaping, and utilities would be available in the new design.

The following are site work assumptions used for development of this cost:

- Provide new parking lot with HMA pavement, including installation of underground storage system to manage runoff generated by the proposed improvements.
- New landscaping.
- New sidewalks access to building. Assumed new sidewalk would have approximately the same area as the existing walks.

The following are building component assumptions used for development of this cost:

- Similar building size and features including masonry construction, with storefront glass, standing seam metal roof.
- Primary utility equipment, including mechanical unit, power panels, and boilers. MEP distribution systems would be limited to core (restrooms).

The following are items not in the opinion of cost:

- Interior space layouts, including MEP distribution systems and finishes.
- Loose furnishings or equipment.
- Reconfiguration of existing water and sanitary sewer utilities on site. Reconfiguration may be needed depending on location and layout of the new building.

No	Description	Cost
1	Building	\$ 4,100,000
2	Site work	\$ 1,050,000
4	Subtotal	\$ 5,150,000
5	Contingency (15%)	\$ 775,000
6	Escalation/Material Contingency (4%)	\$ 206,000
7	Testing (2%)	\$ 105,000
8	General Conditions/OH&P (10%)	\$ 515,000
9	Professional Fees (11%)	\$ 569,000
10	Total	\$ 7,320,000

If you have any questions or want to discuss any items in more detail, please do not hesitate to call to review further.

Sincerely,
OHM Advisors



Christopher Ozog, Project Architect

cc: Rhett Gronevelt, OHM Advisors
Attachment: Aerial Site Scope

Alt 2: Renovation

Legend
Description Quantity Unit

french drain to intercept runoff near building. Outlets to existing sewer.

french drain to intercept runoff near building. Outlets to existing sewer.

9,480 sf

"GSI system" item included to stormwater management of parking lot. Assumes parking lot pavement to be replaced.

0.8 ac

Aerial - Site Scope
April 5, 2023



April 5, 2023

Mr. Jacob Rushlow, PE
Assistant Director of Public Works
City of Livonia
12973 Farmington Road
Livonia, MI 48150

RE: Alfred Noble Library Opinion of Costs

Dear Mr. Rushlow:

In May 2021, OHM Advisors visited the closed Alfred Noble Library building and completed a walkthrough with City staff. Based on the walkthrough and additional materials provided by the City, we prepared a memo dated July 8, 2021, with an of Opinion of Cost and recommendations for repairs as well as a new building alternative and complete demolition. This letter is an update of the Opinion of Cost for the three options: 1) Complete Demolition, 2) Renovation of the building to provide a core and shell building with no specific interior layout, and 3) Construction of a new building of comparable size.

Below is a summary of these three approaches and associated costs:

Option	Description	Cost
1	Building/Site Demolition	\$ 475,000
2	Building Renovation and Site Improvements	\$ 5,510,000
3	New Building	\$ 7,320,000

A further breakdown of the above costs, including general construction, contingency, professional services , and contractor fees are outlined below in the Opinion of Cost section.



Opinion of Cost

Of recent, the current market has been volatile and ever changing as it relates to construction costs. With the costs of materials, , labor, and unknown factors like availability and lead time, the following opinion of costs have taken into consideration higher than normal contingency values as well as included an escalation markup for both labor and materials for an estimated construction time from starting end of 2023 at the earliest. If additional years are considered, there should be escalation costs added to these numbers between 5-6% annually.

1. Demolition of existing building and site clearing

The opinion of cost for demolition of the existing building includes demolition of entire building, removal of foundations and infill of basement area, sidewalks and site garden areas to be removed, general infill grading and seeding of area. It assumes the parking lot is to remain.

No	Description	Cost
1	Building demolition and Infill	\$ 300,000
2	Site	\$ 50,000
3	Subtotal	\$ 350,000
4	Contingency (10%)	\$ 35,000
5	Escalation (4%)	\$ 15,000
6	Testing (8%)	\$ 25,000
7	General Conditions/OH&P (15%)	\$ 50,000
10	Total	\$ 475,000



2. Renovation of existing building and site improvements

The intent of the renovation of the existing building and site improvements is to fully renovate the building to modernize the building envelope and provide an interior core of services and open concept plan for future development.

The following are site work assumptions used for development of this cost:

- Removal and replacement of parking lot pavement and aggregate base, including storm improvements to manage runoff from the new lot to current standards.
- Perimeter drainage at building footings to assist in water management around building. The new drainage system will be connected to existing sewers on site.
- New landscaping.
- New sidewalks with modification to grading areas around the building to improve site drainage.

The following are building component assumptions used for development of this cost:

- Complete tear out of existing space, providing new restroom core for size of building,
- Replacement of building envelope systems such as windows, roofs, and flashings. Existing structure and building enclosure (masonry) would remain with repair work such as tuckpointing and painting.
- Replacement of utility equipment, including mechanical units, power panels, and boilers. MEP distribution systems would be limited to core improvements (restrooms).

The following are items not in the opinion of cost:

- Interior space improvements, including MEP distribution systems and finishes.
- Loose furnishings or equipment.
- Replacement of existing sidewalks other than described above for drainage purposes.

We have included a 30% contingency with the type of renovation work being performed and possible mitigation required as additional areas/materials are exposed. We have also included a 4% escalation cost recognizing the project would not start until 2024 and reflective of continued rise in costs we have been seeing. A testing allowance of 6% is included due to further assessment of material abatement and existing conditions of materials that should be re-tested as work is completed to confirm all work has been done correctly.

No	Description	Cost
1	Building Renovations	\$ 2,835,000
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4	Subtotal	\$ 3,385,000
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The following are site work assumptions used for development of this cost:

- Provide new parking lot with HMA pavement, including installation of underground storage system to manage runoff generated by the proposed improvements.
- New landscaping.
- New sidewalks access to building. Assumed new sidewalk would have approximately the same area as the existing walks.

The following are building component assumptions used for development of this cost:

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The following are items not in the opinion of cost:

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If you have any questions or want to discuss any items in more detail, please do not hesitate to call to review further.

Sincerely,
OHM Advisors



Christopher Ozog, Project Architect

cc: Rhett Gronevelt, OHM Advisors
Attachment: Aerial Site Scope

Alt 2: Renovation

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"GSI system" item included to stormwater management of parking lot. Assumes parking lot pavement to be replaced.

0.8 ac

Aerial - Site Scope
April 5, 2023

Mr. David Lear, P.E.
Assistant City Engineer
City of Livonia / Engineering
33000 Civic Center Drive
Livonia, Michigan 48154

April 25, 2025
NTH Project No. 23001529-02

**RE: Limited Property Condition Assessment
Noble Library Building
32901 Plymouth Road
Livonia, Michigan**

Dear Mr. David Lear:

On behalf of the City of Livonia (City), NTH Consultants Ltd. (NTH) has completed a limited Property Condition Assessment (PCA) of the Noble Library Building in Livonia, Michigan. NTH conducted a visual review of the building and assessed visible conditions relative to the building's structural system, façade/fenestrations, interior construction / finishes, sidewalks, and general site conditions.

Our services were performed in general accordance with the scope and limitations of ASTM 2018, "Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process" including a non-destructive visual review of accessible features and finishes, analysis of our collected field data, and preparation of this letter report.

The following sections describe NTH's understanding of the project background, our assessment procedure, a summary of our findings, our conclusions and recommendations for conceptual repairs / corrective measures, and conceptual level quantities. Additionally, we have prepared an engineer's opinion of probable costs, based on our observations, conclusions, and recommendations.

BACKGROUND

The subject property is the Noble Library Building, at 32901 Plymouth Road, Livonia, Michigan. The library is a one-story building with a basement and is situated on developed land with parking lots, sidewalks, and sewer systems. Based on the historical information provided, the building was built circa 1965. Overall, the footprint of the building is approximately 12,600 square feet. The main floor area comprises approximately 12,533 square feet and the basement comprises approximately 1,693 square feet. The building has been closed since 2019 due to water infiltration and mold issues.

The building's basement houses a meeting room, storage room, and mechanical room. The building's main floor level consists of a juvenile reading room, an adult reading room, a lounge and meeting area, working rooms, men, women and family rest rooms, janitor room, librarian working area, and corridors.



ASSESSMENT PROCEDURE

NTH conducted a walkthrough of the building to perform a non-destructive visual assessment of the subject property on April 16, 2025, accompanied by City of Livonia facilities staff.

The objective of the walkthrough was to gain familiarity with the building layout, its systems and site features, and identify apparent deficiencies including deterioration, defects, and items of significant concern.

NTH's assessment team photographed and documented apparent defects of the building's interior spaces during the walkthrough. NTH also performed inspection of the roof area using a drone.

Additionally, NTH conducted a visual inspection of the building's exterior façade system, sidewalks, and site features; photographed and documented observed defects, and collected exterior dimension measurements.

SUMMARY OF FINDINGS

NTH's observations of significant defects, and recommendations are described below. Representative photos of the building basement and main floor observations can be found in Appendix A. Raw photos are provided in an electronic file.

Inside Building Observations

At the Basement Level we noted:

1. A layer of water and sludge covering the basement floor, hindering the visual inspection. The exposed areas of the concrete floor appear to be in good shape with no cracks identified. (Photo No. 4679)
2. The basement wall has mold and water damage. The water infiltration appears to be coming from both the external walls and from the top of the wall/ceiling from the main floor. (Photo Nos. 4680-4685)
3. Corrosion on the bottom of the metal doors and door frame at the base section. (Photo No. 4695)
4. Corrosion on steel members supporting equipment. (Photo No. 4725)
5. Water marks on the ceiling due to pipe openings with 90-degree bends facing the ceiling. (Photo Nos. 4706-4707)
6. A running water mark on the wall. (Photo No. 4730)
7. Surface corrosion on the exposed steel beams. (Photo Nos. 4733, 4745)
8. One crack on the main floor slab. (Photo No. 4710)
9. The handrail is starting to corrode. (Photo No. 4690)
10. The kicker plate is falling off along the perimeter of the meeting room wall. (Photo Nos. 4686, 4691)
11. Cracks on the wall in the stairwell. (Photo Nos. 4746, 4749)

On the Main Floor we noted:

1. The carpet appears to be dirty and there are stockpiles of damaged ceiling material, insulation, and garbage. (Photo No. 4885)
2. Mold appears on most of the wall surfaces. (Photo No. 4773)
3. Mold and water marks appear on most of the ceiling area (Photo Nos. 4837-4845)
4. The door lock to janitor room is damaged. (Photo No. 4766)
5. There is wood paneling detaching from the wall near the reception desk. (Photo Nos. 4782-4783)
6. An air vent panel detached and on the ground. (Photo No. 4785)
7. In Librarian Room No. 1, three (3) major cracks/fractures on the concrete masonry unit (CMU) wall with gaps of approximately 0.14 inches. Cracks start from two (2) feet above the floor and extend beyond ceiling elevation. (Photo Nos. 4816-4823)
8. Cracks on the dry wall, close to the ceiling, in the east corridor. (Photo Nos. 4825, 4851)
9. The exposed structural steel beams appear to have rust. (Photo No. 4826)
10. Ponding water in the back Lounge and the Adult Reading Room. (Photo Nos. 4830, 4892)
11. Vertical cracks on walls in the rear lounge, the expansion joints along the north wall of the Juvenile Reading Room, and near the ceiling of the Juvenile Reading Room. (Photos 4836, 4846, 4854, 4922, 4935)
12. Wall paint water damages at several locations throughout the building. (Photo Nos. 4848, 4898)
13. Cables securing light fixtures appear to be corroded. (Photo No. 4852)
14. Exposed wood joists appear to be experiencing cycling of dry and wet and mostly appear to be dark on surface with possible mold. However, they seem to be structurally good for service. (Photo No. 4863)
15. Plywood board panels seem to be impacted by water. (Photo No. 4888)
16. The heating board is detached from the wall in the Adult Reading Room. (Photo No. 4877)
17. Insulation damage in most exposed areas. (Photo No. 4890).
18. Ceiling material damage in many areas of the ceiling in the main rooms of the building. Falling ceiling or water marks appear everywhere. (Photo No. 4803)
19. Kicker plate is detached from the wall in the northwest corner of the Adult Reading Room. (Photo No. 4897)
20. Moisture in many of the windows throughout the building, indicating window seals that are beyond their useful lifespan. (Photo No. 4981)

Building Exterior Observations

In the exterior area we noted:

1. Brick damage due to weathering. (Photo Nos. 5005-5006, 5030-5031, 5040-5042, 5051)
2. A depression area near a down spout discharge area. A water flow channel due to seepage was formed in the same area. There is no positive drainage at this location. (Photo Nos. 5043-5044).

3. Mortar and expansion joint damages due to weathering effects around the perimeter of the building. (Photo Nos. 5008, 5010, 5013, 5017, 5018, 5019, 5052).
4. The sealant around some of the doors was beyond its useful lifespan. (Photo No. 5009).
5. Down spout bottom section was missing. (Photo No. 5015)
6. Electrical outlet covers were missing at one location. (Photo No. 5020).
7. Concrete block damage for entrance on the northeast side of the building. (Photo No. 5021)
8. The sealant around the windows was beyond its useful lifespan. (Photo Nos. 5022-5024)
9. Site grading issues along the west side of the north wall of the building, causing drainage issues. (Photo Nos. 5025, 5027, 5029, 5033, 5048-49)
10. Animal hole near the northwest door to the building. (Photo Nos. 5035-5037)
11. A separation in the concrete sidewalk at the entrance to the yard at the northwest corner of the building. (Photo No. 5038)
12. Water marks on brick, implying overflow from the eavestrough.
13. A sidewalk crack on the south side of the building. (Photo No. 5055)
14. Flash deformation along the south roof line of the building. (Photo No. 5056)
15. Door trim damage at the west entrance door. (Photo No. 5045)

Representative photos of the building exterior observations can also be found in Appendix A.

Roof Inspection with Drone:

On the Flat Roof-Parking Lot Side we observed:

1. Tree leaves on flat roof and eavestrough. (Flat Roof Nos. 1, 43)
2. Damage of side edge. (Flat Roof Nos. 7-10, 12)
3. Shingle damage. (Flat Roof Nos. 11, 13, 25, 26)
4. The flat roof has ponding water. (Flat Roof Nos. 19, 22-24, 50, 56)
5. Settlement of roof area. (Flat Roof No. 24)
6. Flash panel damage. (Flat Roof Nos. 47-48, 51)

On the Flat Roof - Plymouth Roadside we identified:

1. Tree leaves on flat roof and eavestrough. (Flat Roof Nos. 1, 23, 45)
2. The flat roof has ponding water. (Flat Roof Nos. 1-5, 21, 62, 71)
3. Flash panel damage detachment. (Flat Roof Nos. 24, 33, 61)
4. The drainage inlet was blocked with tree leaves. (Flat Roof No. 47)
5. Sealing strip detachment. (Flat Roof Nos. 29, 37).
6. Sealing issue. (Flat Roof No. 31)
7. Holes on flat roof. (Flat Roof Nos. 35, 49)

On the Flat Roof - Woodring Ave side we noted:

1. Tree leaves on flat roof and eavestrough. (Flat Roof Nos. 28, 29, 40)

2. Sludge accumulation around drain inlet. (Flat Roof No. 6)
3. Damage of side edge. (Flat Roof Nos. 30, 31, 32)
4. The flat roof has ponding water. (Flat Roof Nos. 3, 9, 25, 26, 27, 33, 34-43, 44)
5. Flash panel damage detachment. (Flat Roof No. 45)
6. Sealing strip detachment. (Flat Roof Nos. 7, 10, 11, 13, 18, 20, 21, 22).
7. Shingle damage. (Flat Roof Nos. 30-31)

On the Shingle Roof - Loveland St. Paring Lot we found:

1. A loose piece of shingle (Shingle -Loveland/Parking Nos. 1, 40, 44)
2. Shingle detachment (Shingle -Loveland/Parking No. 13)
3. Damage of shingle piece (Shingle -Loveland/Parking Nos. 16, 36, 47)
4. Cracks on shingles (Shingle -Loveland/Parking Nos. 25-26)
5. Detachment of shingle was found (Shingle -Loveland/Parking Nos. 27, 40)

On the Shingle Roof - Woodring Ave we observed:

1. Loose piece of shingle. (Shingle Area No. 1.)
2. Damage of shingle piece. (Shingle Woodring Ave Nos. 7, 8)
3. Cracks on shingles. (Shingle Woodring Ave No.)
4. Detachment of shingle. (Shingle Woodring Ave No. 10, 11, 15)
5. Drain Inlet was clogged with tree leaves. (Shingle Woodring Ave No. 21)

Photos of the typical conditions of the roof are included in Appendix A.

As indicated previously, raw inspection photos are available digitally for reference. A map showing the damage of the building is included in Appendix B.

RECOMMENDATIONS

The followings are our Recommendations:

Roof and Ceiling:

1. Replace the roof completely including the flat roof area. Based on email communication with Owner, the roof is more than 35 years old. The typical shingle roof's service life is approximately 20-25 years. In addition, it is apparent that there is a lot of water penetration and infiltration through the roof. Our inspection photos also show deterioration of roof in both shingle areas and flat roof areas. Additionally, we recommend that for flat roof area, the drainage be improved or modified with necessary slope toward the drain inlets.
2. Repair damaged flash panels.
3. The condition of the plywood boards underneath the roof is unknown. Based on the visibly water-damaged areas of the ceiling, there are significant areas of plywood that have been exposed to moisture for several years. The City should include an allowance for plywood board replacement at 30-50% of the total area.

4. Insulation under the roof appears to be in bad condition for the areas exposed. It likely has mold due to moisture accumulation within the insulation material. All insulation should be replaced.
5. The ceiling of the entire building will need to be replaced due to considerable damage and mold issues. This includes both the drop ceiling and drywall portions of the ceiling.
6. Structural steel appears to have been exposed to moisture also, and the surface will need to be sand blasted and coated with a zinc-rich primer.
7. Wood truss structures appear to be in good condition. However, the wood truss structure will need to be inspected closely after the structures are exposed with roof and ceiling removal. We recommend that City set an allowance for minor wood truss structural repair.

Main floor walls:

1. The cracks on the walls can be repaired with epoxy injection. All internal wall areas need to be repainted after the mold issue is completely resolved.
2. Damaged portions of flashing and sealant of windows should be replaced.
3. Most of the windows appear to be in good to fair conditions. Some of the windows will need to be treated to remove moisture and sealed off properly. The City can develop an O&M plan to maintain or repair, as necessary. No cost is included in this report for window maintenance, and we recommend that the City establish O&M budget for this portion.

Floor:

1. The whole main floor carpet should be replaced completely due to mold concern. Additional inspection of the sub-floor will need to be completed due to the potential for mold growth underneath the carpet.
2. One wood flooring panel will need to be restored to match the existing.
3. The crack on one precast concrete floor panel will need to be repaired via epoxy injection.

Basement:

1. The basement ceiling will need to be completely replaced due to water damage, aging, and mold issues.
2. The basement walls will need to be repainted after the mold issue is resolved.
3. Install an exterior perimeter drainpipe around the basement exterior wall. Water from the drainpipe can be discharged to an indoor sump pump as an economical solution or connected into a nearby storm sewer system. Also, a layer of water barrier will need to be installed on the exterior face of the perimeter wall to prevent water infiltration. Based on our observation, the water infiltration not only comes from the roof but also from the exterior basement walls of the building. It is evident that there is a lack of positive drainage around the building causing water penetration into the basement. Perimeter drainpipe will need to have gravel bedding wrapped with geotextile. After the moisture barrier is installed, the trench will be backfilled and compacted. Disturbed areas will need to be restored.
4. It would be difficult to install the drainpipe and moisture barrier on the north wall since it is within the building area. We would expect that the water infiltration from the north wall would stop with proper site drainage improvement to achieve positive drain. If not, internal vapor barrier with floor trench drainpipe will need to be installed. This will require cutting the concrete floor at the toe of exterior wall by around six (6) inches wide and eight (8) inches deep to install a 4-inch perforated pipe and backfill with gravel to drain the infiltrated water to the existing pump sump. Further investigation may need to be completed to confirm

- whether a drainpipe would be required or not for the north wall.
5. A maintenance free dehumidifier should be installed in the basement to ensure an acceptable moisture level in basement to prevent future mold issues. However, this is part of the mechanical cost item related to HVAC and the cost is not included in our engineering estimate in this report.
 6. The area within ten (10) feet from the perimeter of the building needs to be re-graded to achieve positive drain. After regrading, the site should be sodded.
 7. Replace all kicker plates.
 8. Sand blast handrails and coat with zinc rich primer.
 9. Sand blast steel beams and coat with zinc rich primer.

At the time of the site visit and inspection, the basement floor was still wet and covered with a layer of sludge, as a result, it was not possible to confirm if there was any water infiltration through the basement floor or not. Based on the available record drawings, a vapor barrier was not installed during construction; this poses a substantial risk if there is a shallow ground water table under the basement. Our engineering probable cost estimate does not include the mitigation of basement floor water-sealing due to unknown conditions.

Building Exterior wall:

1. Repair exterior brick wall, epoxy grout or mortar grout all cracks grouted to seal off water.
2. Treat the animal hole properly with backfilling.
3. Repair concrete damage at the entrance.
4. Repair concrete walkways.

Additional works by others:

The following work items are beyond the scope of this project. The City may need to retain other professionals, specifically:

1. Mechanical Engineer to evaluate HVAC systems, piping, toilets and determine the scope of work for repair or replacement and moisture control of the building.
2. Electrical Engineer to evaluate electrical and control system and determine the scope of work for repair or replacement.
3. Mold remediation professional to evaluate and determine the scope of work to resolve mold issues.
4. Additionally, we recommend City to assign budget for necessary furniture replacement.

To assist you with the decision regarding the building's rehabilitation, we have developed a conceptual-level Engineer's Opinion of Probable Cost Estimates for the suggested repairs as shown below.

Please note that NTH's cost estimate **does not** include mold treatment, mechanical, electrical and control items. Replacement of furniture is also not included in this estimate. As discussed above, the City will need to retain other professionals to perform an evaluation for these items.



NTH's cost estimate is for preliminary purpose only. For construction cost, we recommend that an RFP package be prepared and issued for competitive prices. We can assist the City with developing an RFP package under a separate scope of work.

COST ESTIMATE

Item	Description	Item Detail Cost	Item Sub total
1	Roof and Ceiling		\$ 361,447
1.1	Roof replacement	\$ 171,451	
1.2	Damaged flash panel replacement	\$ 800	
1.3	Plywood board replacement (30% of roof)	\$ 18,800	
1.4	Roof insulation replacement	\$ 100,264	
1.5	Ceiling replacement	\$ 50,132	
1.6	Steel structural coating	\$ 10,000	
1.7	Wood truss structures repair	\$ 10,000	
2	Main Floor Wall		\$ 77,250
2.1	Wall crack repair	\$ 4,800	
2.2	Window flashing and sealant	\$ 450	
2.3	Wall repainting	\$ 72,000	
3	Floor		\$ 113,997
3.1	Carpet replacement	\$ 112,797	
3.2	Wood panel restoration	\$ 1,000	
3.3	Precast concrete crack repair	\$ 200	
4	Basement		\$ 155,976
4.01	Basement ceiling replacement	\$ 2,916	
4.02	Basement wall repainting	\$ 12,960	
4.03	Basement exterior perimeter drain pipe installation	\$ 22,800	
4.04	Basement wall exterior site regrading	\$ 90,000	
4.05	Basement wall exterior moisture barrier installation	\$ 7,500	
4.06	Basement Interior Vapor barrier Installation	\$ 3,800	
4.07	Basement concrete trench and drain pipe installation	\$ 3,800	
4.08	Basement vapor barrier protection wood panel finish	\$ 7,600	
4.09	Stair well wall crack repairs	\$ 1,600	
4.11	Kicker plate replacement	\$ 500	
4.12	Handrail coating	\$ 500	
4.13	Steel beam coating	\$ 2,000	
5	Exterior Area		\$ 9,000
5.1	Exterior brick wall repair	\$ 5,000	
5.2	Animal hole treatment	\$ 1,000	
5.3	Concrete damage repair	\$ 1,000	
5.4	Concrete walkway repair	\$ 2,000	
6	Contractor Mob/Demo	\$ 20,000	\$ 20,000
7	Building waste disposal	\$ 50,000	\$ 50,000
	Subtotal:		\$ 787,670
	Contingency (30%)		\$ 236,301
	Engineering services		\$ 39,383
	Construction management services		\$ 70,890
	Total:		\$ 1,134,245

CONCLUSION

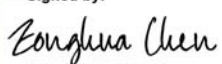
Based on our review of the subject property, we consider the buildings' structure system to be in fair to bad condition after 60 years of service and several years of exposure to weather conditions. Significant renovation work will need to be completed to extend the building's life. The following is a summary of our findings.

- No major issues were identified for the building foundation except ground water infiltration. As such, we proposed a water/vapor barrier and perimeter drainpipe be installed for the basement area. Site re-grading to achieve positive drain will need to be done to prevent future infiltration.
- Mold in the building will be the major concern; we recommend that City hire qualified mold remediation experts to resolve the mold issue.
- The roofing system is beyond its service life. We recommend the complete replacement of the roof and modifications to ensure a positive drain in the flat roof area. Eavestrough and roof drains will need to be inspected seasonally. We also recommend partial replacement of the plywood board layer, and complete replacement of insulation of the building.
- We recommend complete replacement of the ceiling for both the main floor and basement as these are contaminated with mold and in extremely bad condition.
- We recommend that the internal wall be repainted after the mold issue is resolved.
- We recommend that an allowance be set aside for possible structural repairs of the truss system and steel beams.
- We recommend all damages as identified in this report be repaired properly.
- Our conceptual-level Engineer's Opinion of Probable Cost Estimates for the suggested repairs and remediation is in the order of \$1,135,000.

We appreciate the opportunity to be of service to you. Should you have any questions, please contact Zonghua Chen at 248-916-6877.

Sincerely,

NTH Consultants, Ltd.

Signed by:

E6DE47F783E346C...
Zonghua Chen
Principal Engineer

Signed by:

2261F01909FB41F...
Karen W. Okonta
Project Manager

ZC/KO/dc

Attachments

Appendix A: Photo Log

Appendix B: Field Schematic Drawings



APPENDIX A

Site Visit Photos

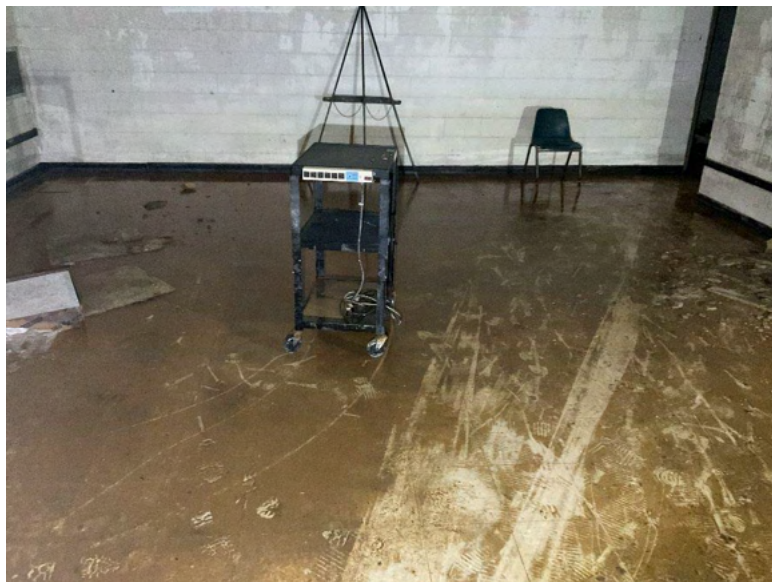


PHOTO LOG

Basement:



Basement Ceiling – Mold (Photo No. 4682)



Basement Floor – Sludge (Photo No. 4679)



Basement – Ceiling panel missing (Photo No. 4684)



Basement – Kicker plate (Photo No. 4691)



Basement Wall - Paint damage and mold (Photo No. 4718)



Basement Wall – Mold (Photo No. 4719)



Basement wall – Moisture Infiltration (Photo No. 4688)



Basement Ceiling – Water infiltration from first floor (Photo No. 4696)



Basement Wall Mechanical Room – Water infiltration through wall (Photo No. 4716)



Basement – Mechanical Room floor (Photo No. 4723)



Basement – Steel beam corrosion (Photo No. 4733)



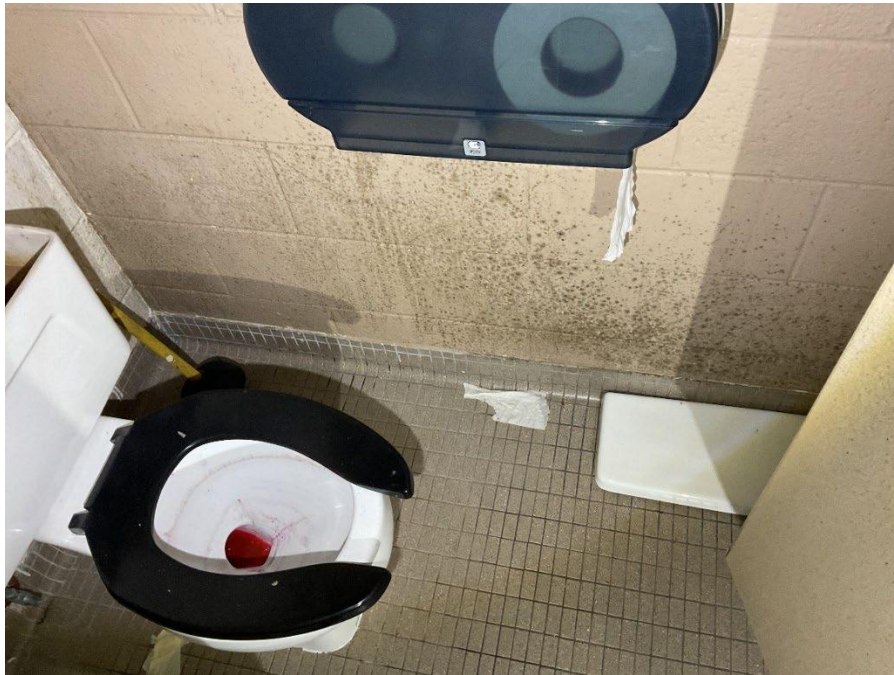
Basement Ceiling – Damage insulation with mold (Photo No. 4754)



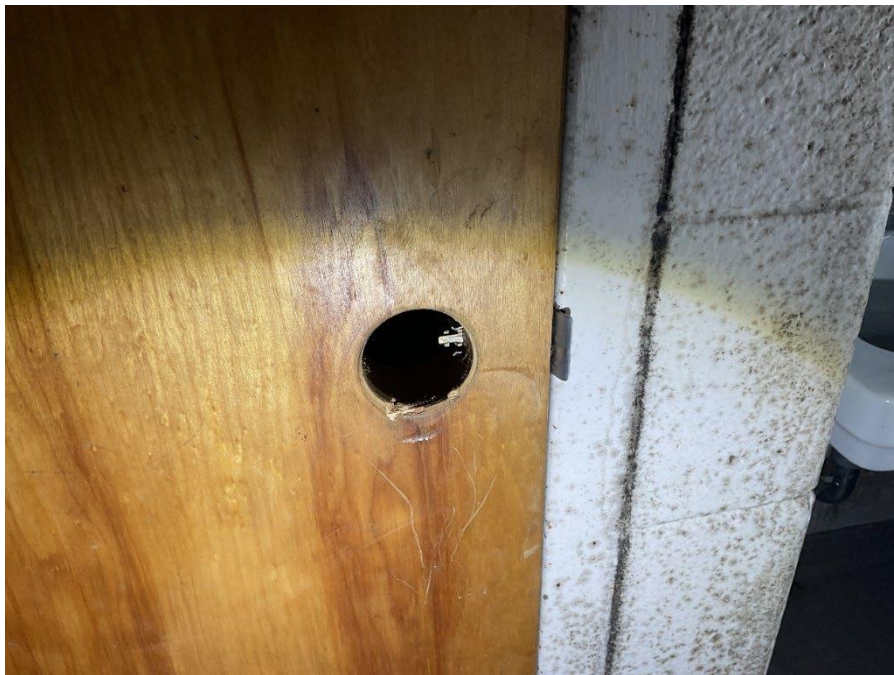
Stair Well – wall cracks/rusty handrail (Photo No. 4749)



Main Floor:



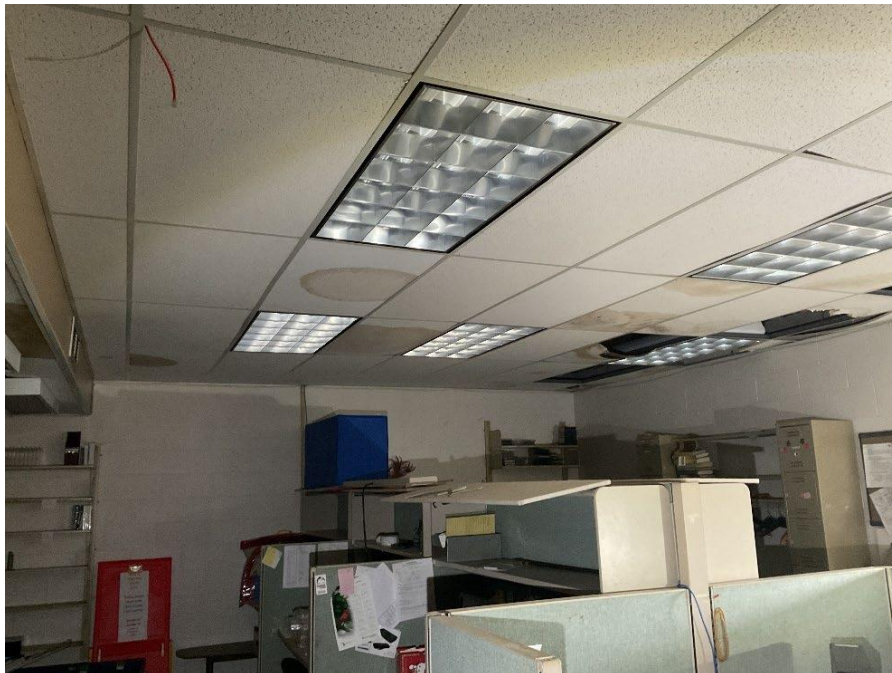
Main Floor Restroom – Mold on wall (Photo No. 4759)



Main Floor Janitor Room – Lock damage / mold on wall (Photo No. 4766)



Main Floor Carpet – Mold and stockpiled with ceiling material (Photo No. 4784)



Main Floor Work Room Ceiling - Water damage (Photo No. 4800)



Main Floor Work Room Ceiling - Water damage (Photo No. 4804)



Main Floor – Librarian Room – Cracks on wall/ water damage on ceiling (Photo No. 4822)



Main Floor Lounge Room – Water mark on floor (Photo No. 4831)



Main Floor Ceiling – Typical water damage (Photo No. 4838)



Main Floor – steel beam corrosion (Photo No. 4840)



Main Floor Wall – Water damage (Photo No. 4848)



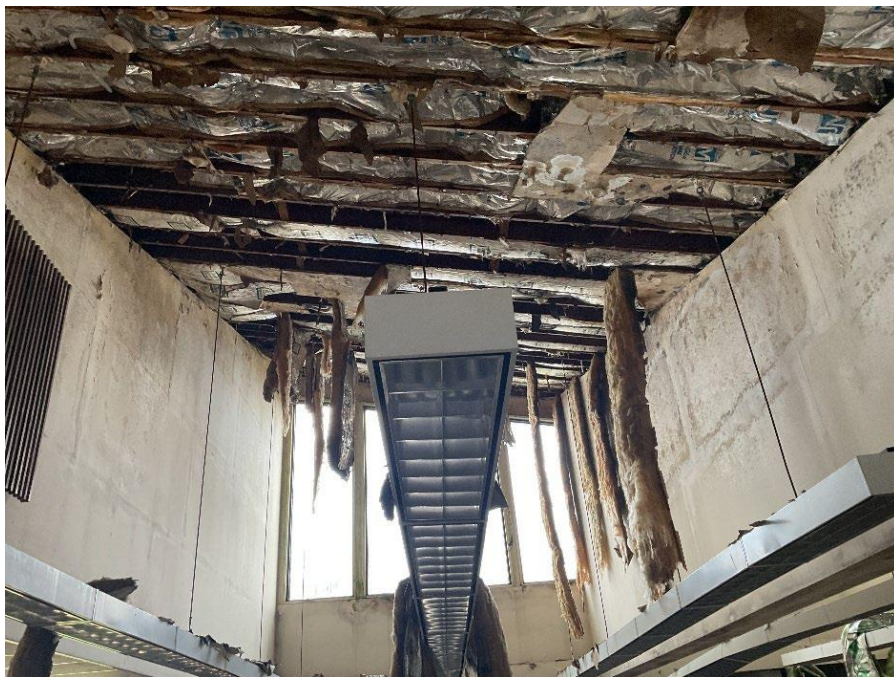
Main Floor Ceiling - Mold (Photo No. 4852)



Main Floor Lounge – Ceiling damage/Insulation damage/ mold on wall (Photo No. 4863)



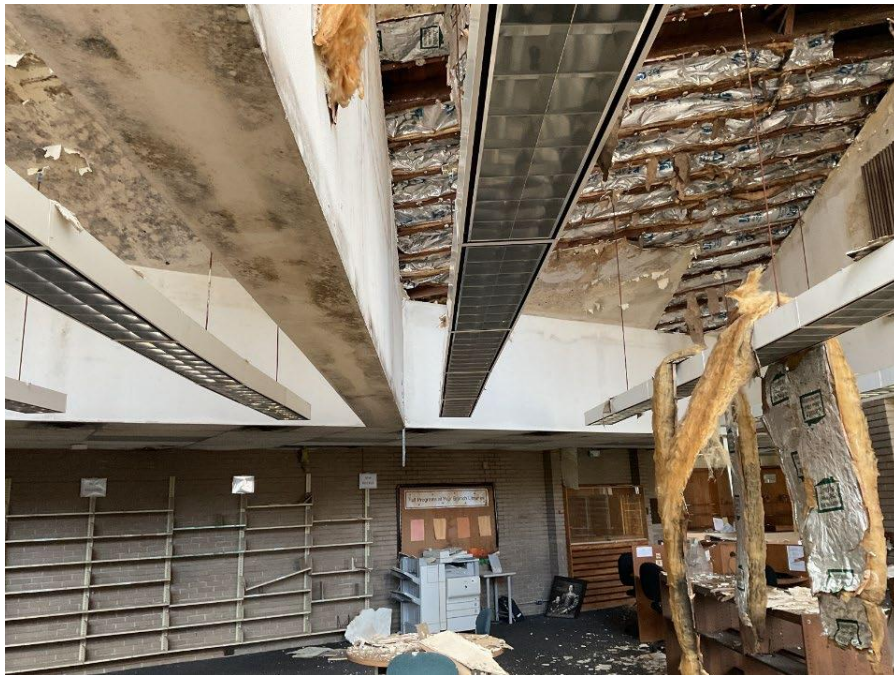
Main Floor – Heating panel damage (Photo No. 4876)



Main Floor - Ceiling damage (Photo No. 4880)



Main Floor – Floor Conditions (Photo No. 4885)



Main Floor - Ceiling damage/ Insulation damage (Photo No. 4896)



Main Floor – Kicker plate damage (Photo No. 4897)



Main Floor - Ceiling damage/ insulation damage/ mold (Photo No. 4903)



Main Floor – Ceiling mold (Photo No. 4911))



Main Floor Adult Reading Room – Wall crack (Photo No. 4921)



Main Floor – Floor conditions (Photo No. 4967)



Main Floor – Floor conditions (2) (Photo No. 4975)



Main Floor – Moisture in windows (Photo No. 4981)



Building Exterior:



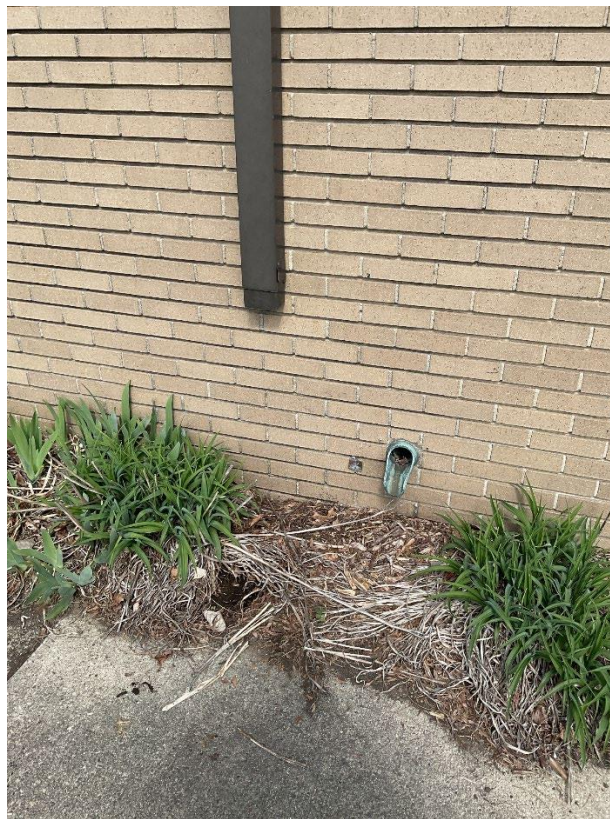
Exterior Wall - Brick damage (Photo No. 5005)



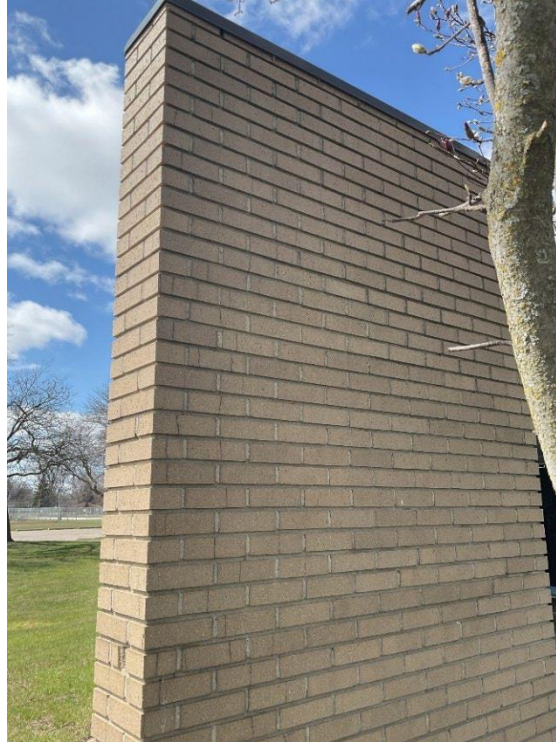
External Area - Down spout drain with no positive drain on ground (Photo No. 5007)



Exterior Wall – Mortar damage (Photo No. 5008)



Exterior Area - Down spout loose bottom section (Photo No. 5015)



Exterior Wall – Brick damage (Photo No. 5018)



Electrical Outlet – Loose cover (Photo No. 5020)



External Area – Concrete damage (Photo No. 5021)



Exterior - Window seal damage (Photo No. 5022)



External Area - Evidence of water seepage at toe of wall (Photo No. 5025)



External Area – Local depression area due to drainage (Photo No. 5029)



External Area – Brick damage (Photo No. 5030)



External Area – Brick damage (Photo No. 5031)



External Area – Animal hole (Photo No. 5035)



External Area – Concrete damage (Photo No. 5038)



External Area – Depression area, lack of positive drainage (Photo No. 5048)



Exterior Area – Depression area, lack of positive drain (Photo No. 5049)



Exterior area: walkway concrete damage (Photo No. 5055)



Roof:



Flat Roof – Stockpile with tree leaves (Parking Lot Side Photo No. 1)



Flat Roof – Lack of positive drain (Parking Lot Side Photo No. 20)



Flat Roof – Damage at the curb connecting to shingle roof, lack of positive drain (Parking Lot Side Photo No. 23)



Flat Roof – Damage at patching (Parking Lot Side Photo No. 39)



Flat Roof- Damage at edge (Parking Lot Side Photo No. 51)



Flat Roof – Water ponding/ Lack of positive drain (Parking Lot Side Photo No. 56)



Flat Roof – Holes at edge (Plymouth Rd Photo No. 15)



Flat Roof – Potential drain inlet clog (Plymouth Rd Photo No. 23)



Roof – Loose flash panel (Plymouth Rd Photo No. 24)



Flat Roof – Damage of patching repair (Plymouth Rd Photo No. 29)



Flat Roof – Loose flash panel (Plymouth Rd Photo No. 33)



Flat Roof -Water ponding (Plymouth Rd Photo No. 71)



Flat Roof – Lack of positive drain (Woodring Ave Photo No. 2)



Flat Roof – Damage of patching (Woodring Ave Photo No. 8)



Shingle Roof – Loose piece (Loveland St and Parking Lot Photo No. 1)



Shingle Roof – Damaged shingle (Loveland St and Parking Lot Photo No. 37)



Shingle Roof – Loose shingle piece (Loveland St and Parking Lot Photo No. 39)



Shingle Roof – Damaged shingle piece (Loveland St and Parking Lot Photo No. 47)



APPENDIX B

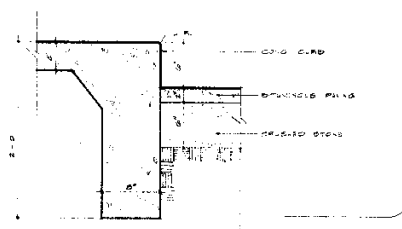
Noble Library Record Plan Set

SCALE: 1" = 10'

PLYMOUTH ROAD

NO.	DESCRIPTION	NO.	DESCRIPTION
1	1.5' HIGH CONC. CURB	1	1.5' HIGH CONC. CURB
2	2.0' HIGH CONC. CURB	2	2.0' HIGH CONC. CURB
3	3.0' HIGH CONC. CURB	3	3.0' HIGH CONC. CURB
4	4.0' HIGH CONC. CURB	4	4.0' HIGH CONC. CURB
5	5.0' HIGH CONC. CURB	5	5.0' HIGH CONC. CURB
6	6.0' HIGH CONC. CURB	6	6.0' HIGH CONC. CURB
7	7.0' HIGH CONC. CURB	7	7.0' HIGH CONC. CURB
8	8.0' HIGH CONC. CURB	8	8.0' HIGH CONC. CURB
9	9.0' HIGH CONC. CURB	9	9.0' HIGH CONC. CURB
10	10.0' HIGH CONC. CURB	10	10.0' HIGH CONC. CURB

NO.	DESCRIPTION	NO.	DESCRIPTION
1	1.5' HIGH CONC. CURB	1	1.5' HIGH CONC. CURB
2	2.0' HIGH CONC. CURB	2	2.0' HIGH CONC. CURB
3	3.0' HIGH CONC. CURB	3	3.0' HIGH CONC. CURB
4	4.0' HIGH CONC. CURB	4	4.0' HIGH CONC. CURB
5	5.0' HIGH CONC. CURB	5	5.0' HIGH CONC. CURB
6	6.0' HIGH CONC. CURB	6	6.0' HIGH CONC. CURB
7	7.0' HIGH CONC. CURB	7	7.0' HIGH CONC. CURB
8	8.0' HIGH CONC. CURB	8	8.0' HIGH CONC. CURB
9	9.0' HIGH CONC. CURB	9	9.0' HIGH CONC. CURB
10	10.0' HIGH CONC. CURB	10	10.0' HIGH CONC. CURB



1	1.5' HIGH CONC. CURB
2	2.0' HIGH CONC. CURB

SITE PLAN
1:500

1:500 - 1:500

1:500 - 1:500

1:500 - 1:500

- TO BE REMOVED
- TO BE REPAIRED
- TO BE REPAIRED
- TO BE REPAIRED
- TO BE REPAIRED

Gunnar Bir
Assoc
Arch

100 North Woodward

NEW
SOUTH
LINDA

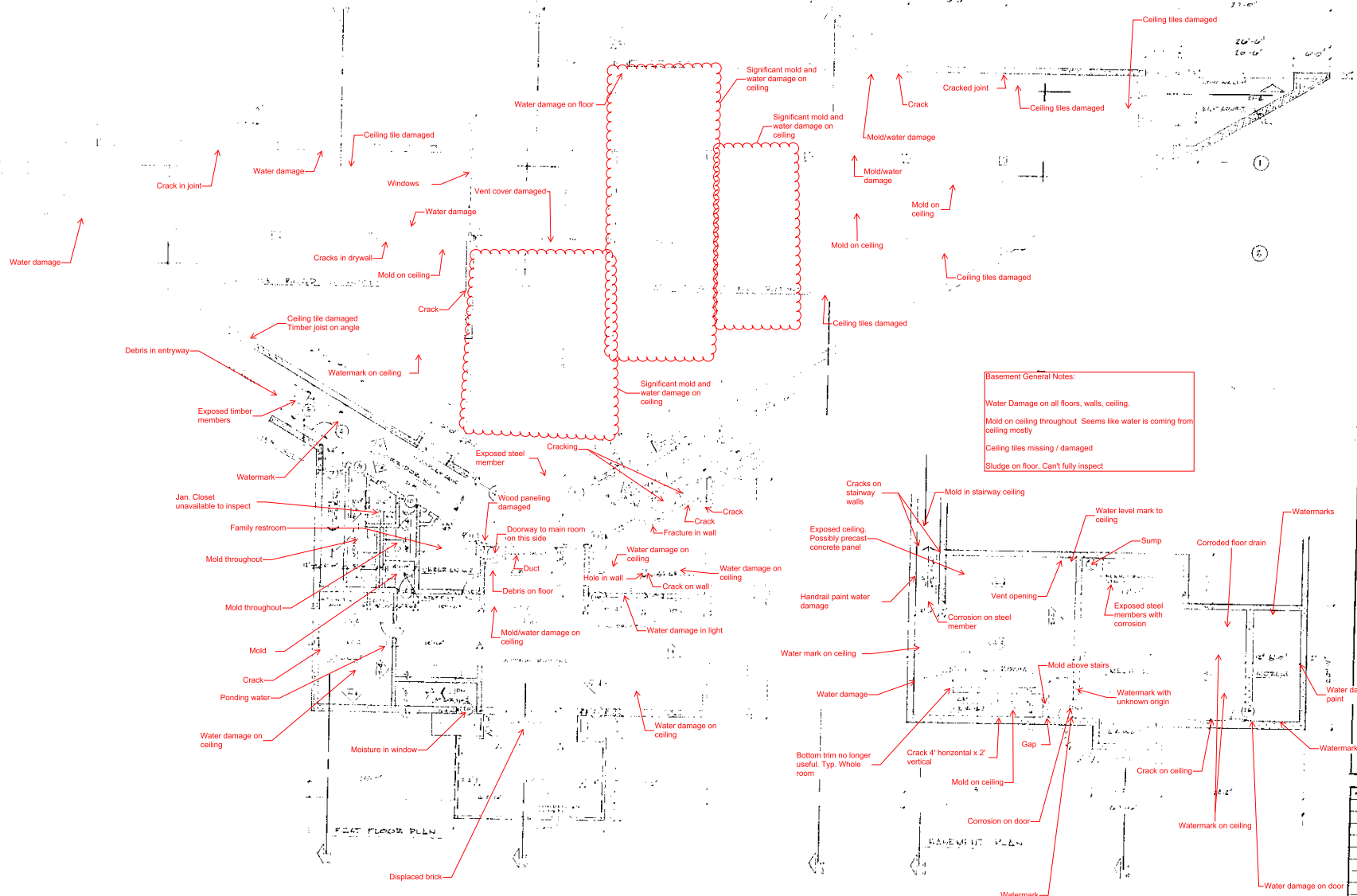
DATE OF
WORK
1/1/2015

SITE PLAN

REVISION	DATE	BY
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

DRAWN	+
CHECKED	+
APPROVED	+
DATE	1/1/2015
SCALE	1" = 10'
PROJECT	100 North Woodward

Markups are based on NTH site visit on April 16, 2015.



Basement General Notes:
Water Damage on all floors, walls, ceiling.
Mold on ceiling throughout. Seems like water is coming from ceiling mostly.
Ceiling tiles missing / damaged.
Sludge on floor. Can't fully inspect.

Markups are based on NTH site visit on April 16, 2025.

Gunnar Birkerts
and
Associates
Architects

1300 North Washington Blvd. Suite 100
Tel: 616.486.1111
Fax: 616.486.1112

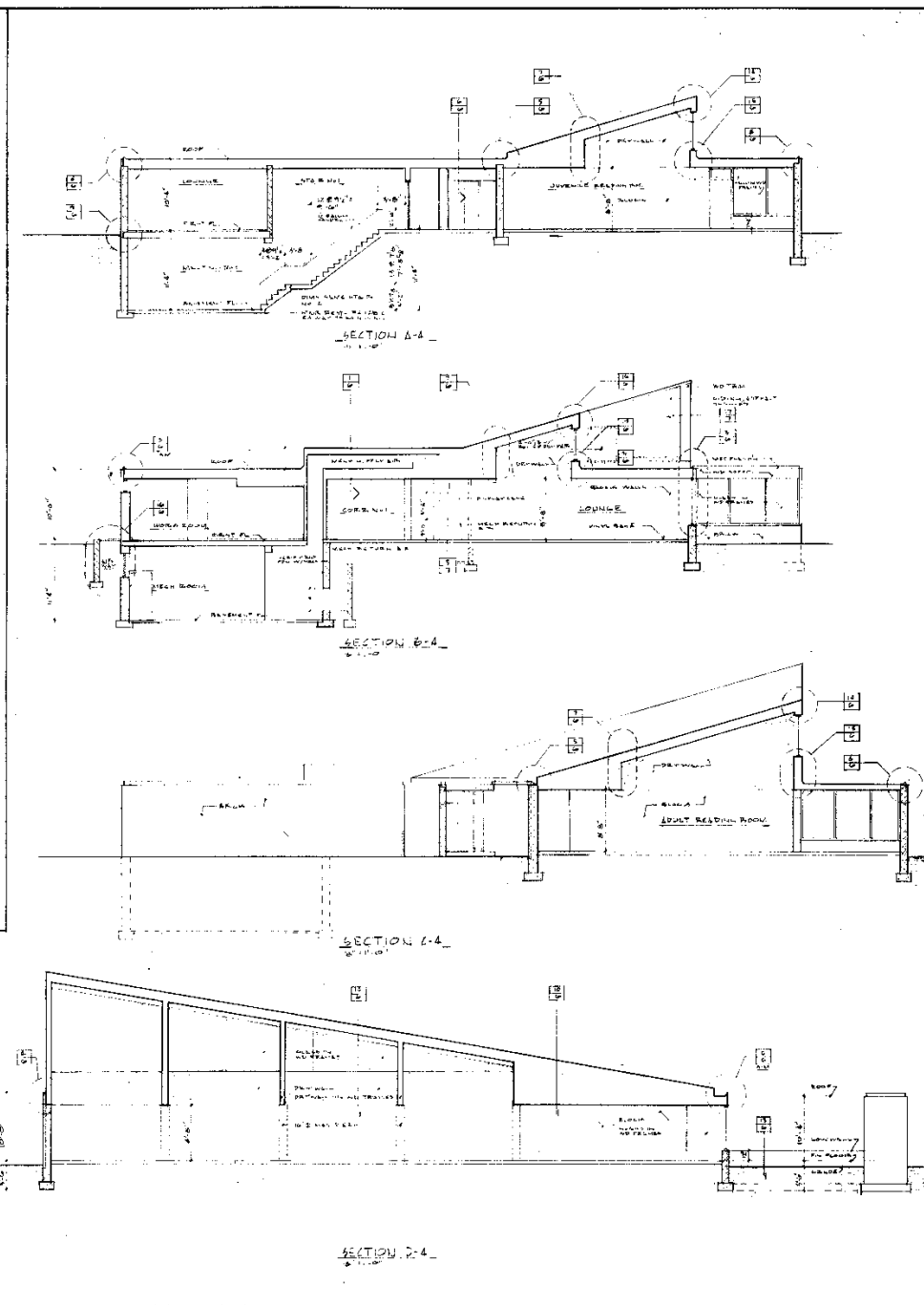
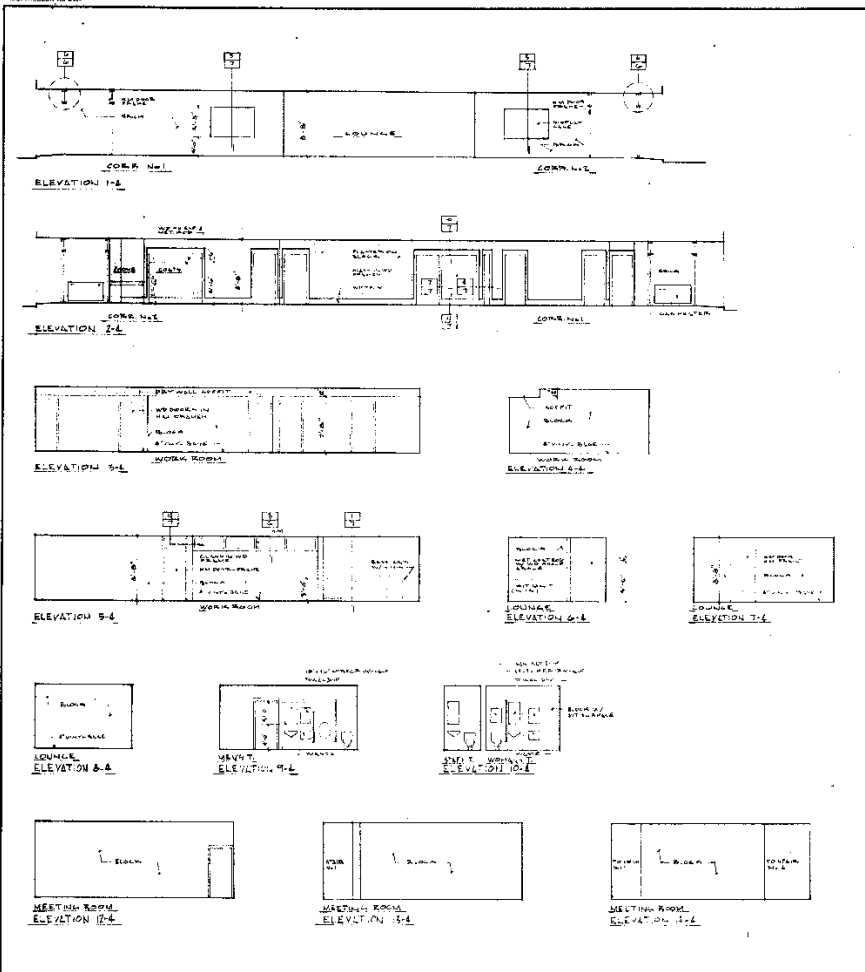
NTH
SOUTH BRANCH
LIVONIA LIBRARY
CITY OF LIVONIA
WAYNE COUNTY
MICHIGAN

FIRST FLOOR PLAN

NO.	DATE	BY

DRAWN BY	
CHECKED BY	
APPROVED BY	
DATE	
SCALE	
PROJECT	





Gunnar Birkerts
and
Associates
Architects

1401 North Woodward Birmingham Michigan 48402
Tel: 844-0888

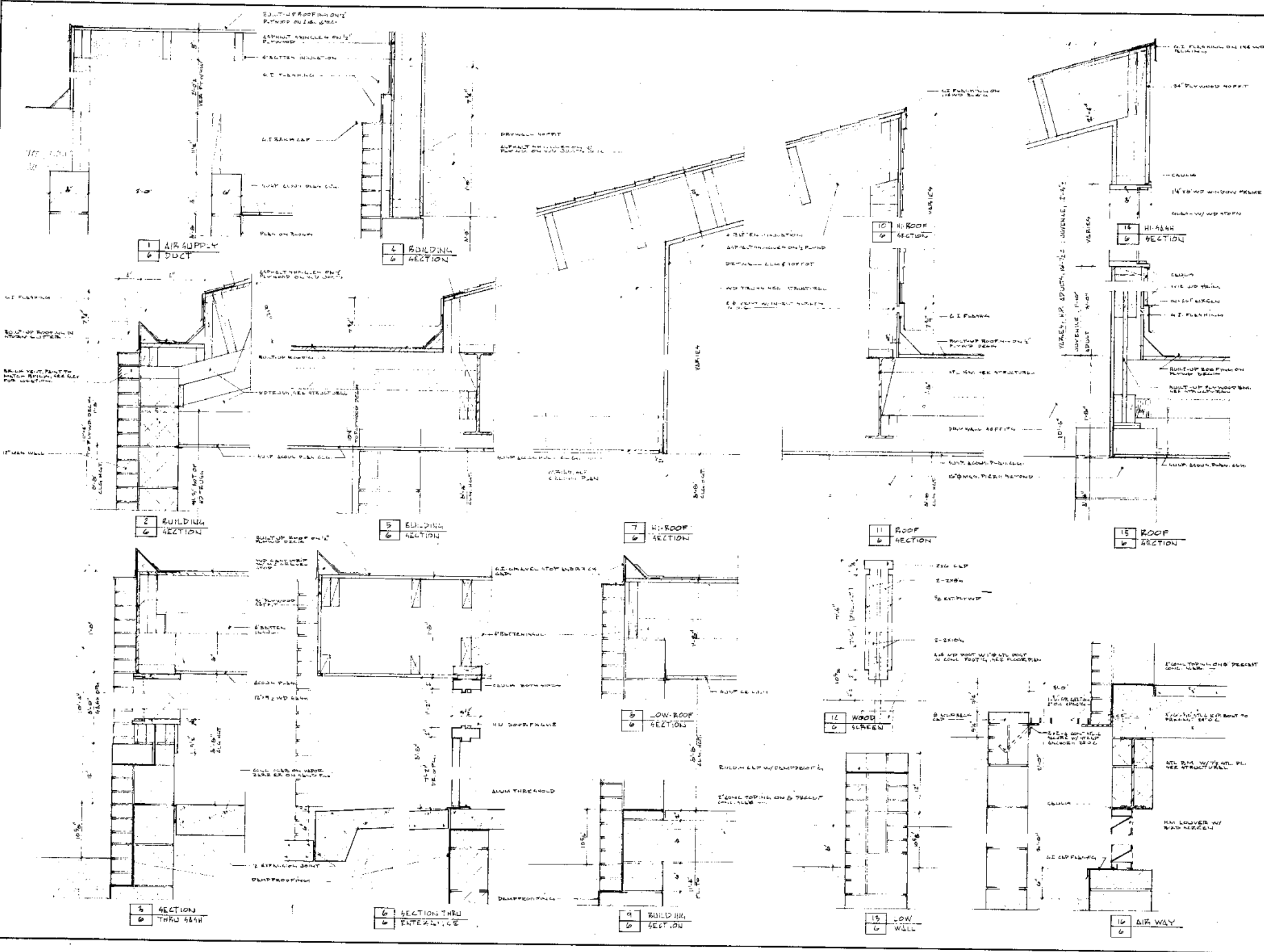
NEW
SOUTH BRANCH
LIVONIA LIBRARY

CITY OF LIVONIA
WAYNE COUNTY
MICHIGAN

INTERIOR ELEVATIONS
SECTIONS

REVISION	DATE	BY

DRAWN ☒
 CHECKED ☒
 APPROVED ☒
 DATE SEPT 18 1985
 SCALE
 PROJECT
 6502



Gunner Birkerts and Associates Architects

100 North Wacker Drive, Chicago, Illinois 60606

NEW SOUTH BRANCH
LIVONIA LIBRARY
CITY OF LIVONIA
WAYNE COUNTY
MICHIGAN

DETAILS

REVISION	DATE	BY

DRAWN ☒

CHECKED ☒

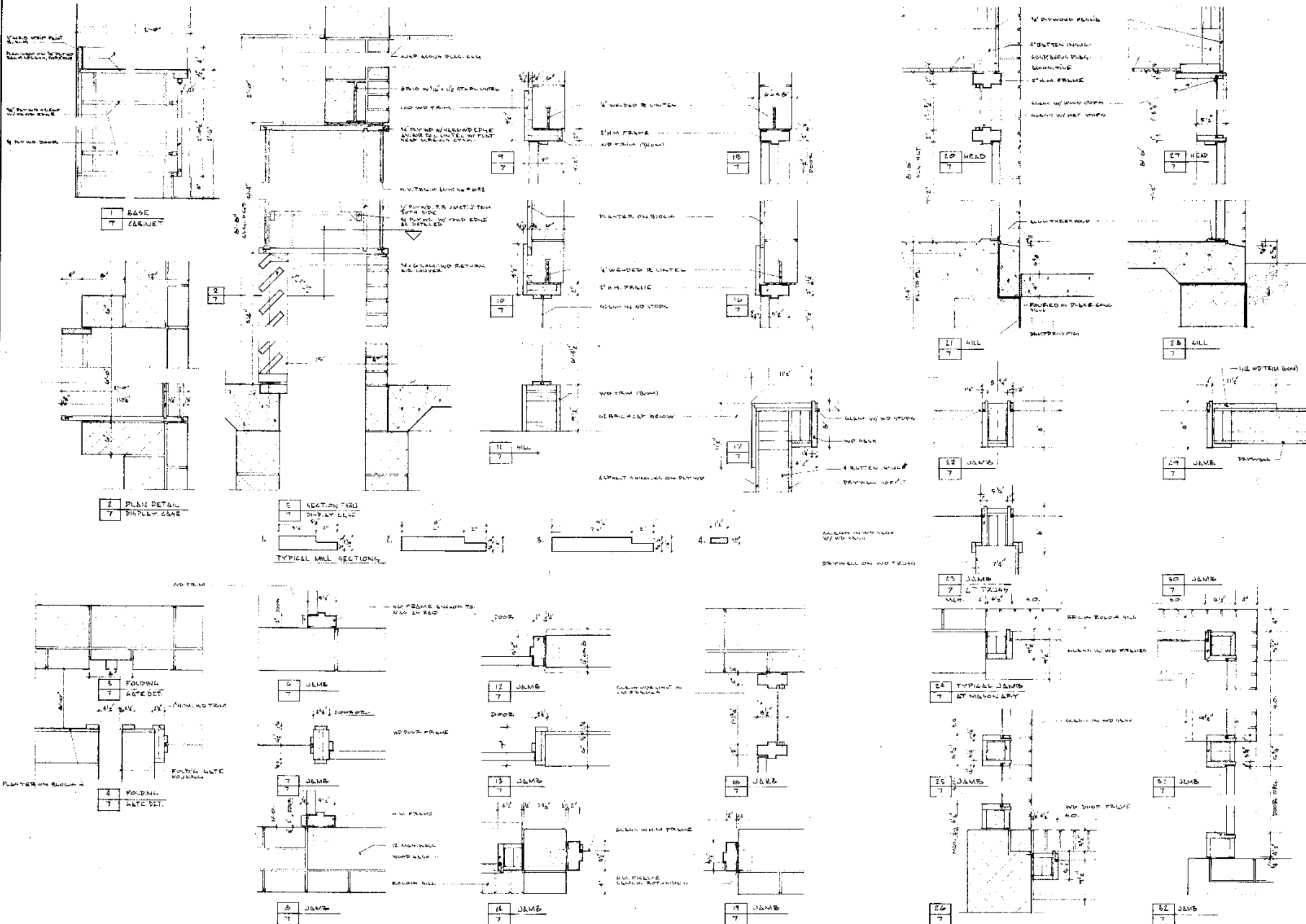
APPROVED ☒

DATE 08/18/95

SCALE

PROJECT

0502



Gunnar Birkerts
and
Associates
Architects

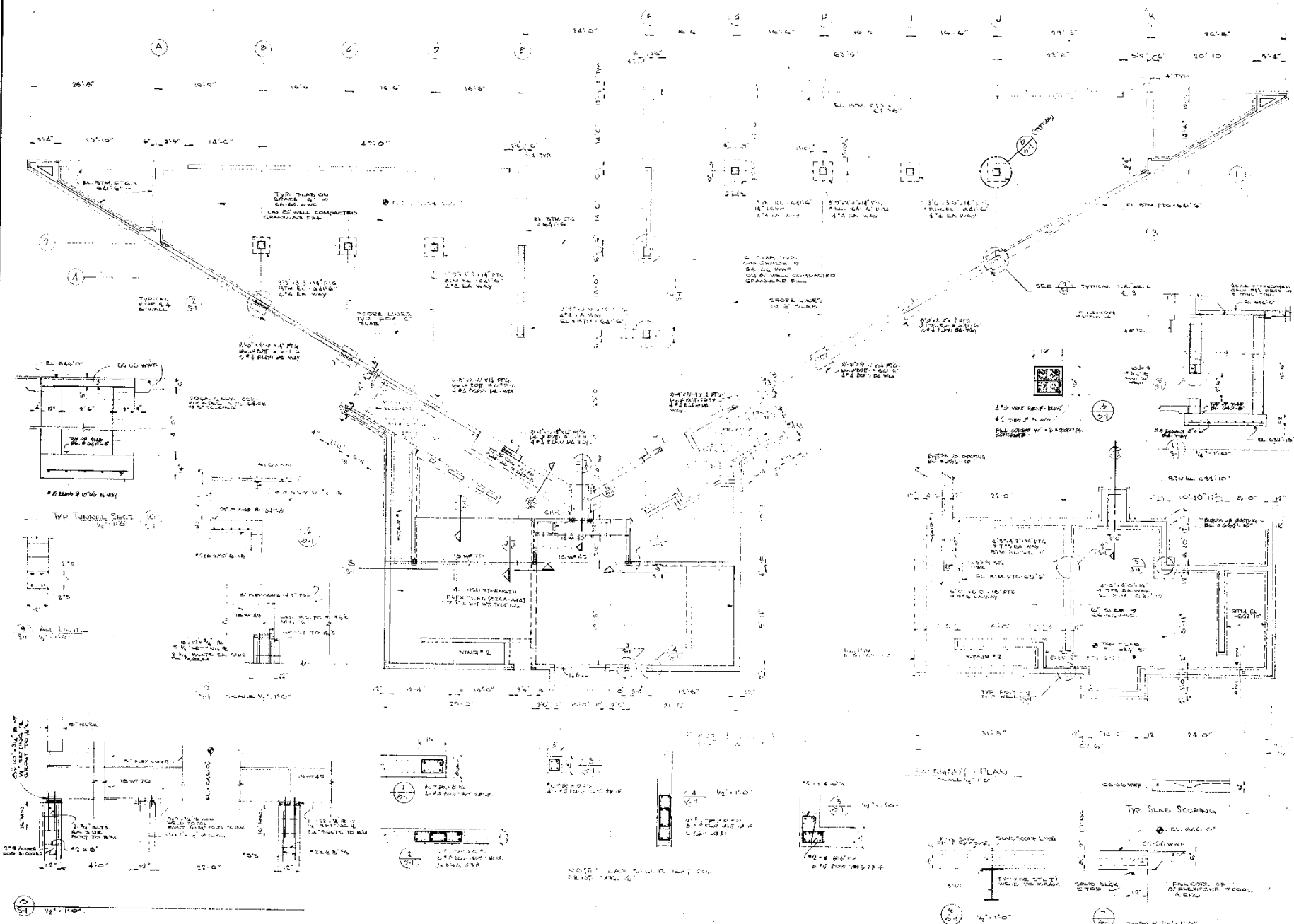
NEW
SOUTH BRANCH
LIVONIA LIBRARY

CITY OF LIVONIA
WAYNE COUNTY
MICHIGAN

DETAILS

ITEM	DATE	BY

DRAWN
CHECKED
APPROVED
DATE OCT. 15, 1965
SCALE
PROJECT



Gunnar Birkerte and Associates Architects

ROBERT M. DAVIES AND ASSOCIATES
CONS. STRUCT. ENGRS
ANN ARBOR, MICH.

NEW
SOUTH BRANCH
LIVONIA LIBRARY

CITY OF LIVONIA
WAYNE COUNTY
MICHIGAN

FIRST FLOOR PLAN
BASEMENT PLAN
DETAILS

REVISIONS		
ITEM	DATE	BY

DRAWN: T.H. VED
CHECKED:
APPROVED:
DATE: SEP 10, 1965
SCALE:
PROJECT: 6502

S1



Gunnar Birkerts
and
Associates
Architects

ROBERT M. DAVIS
AND ASSOCIATES
CONSULTING ENGINEERS
ANN ARBOR, MICH.

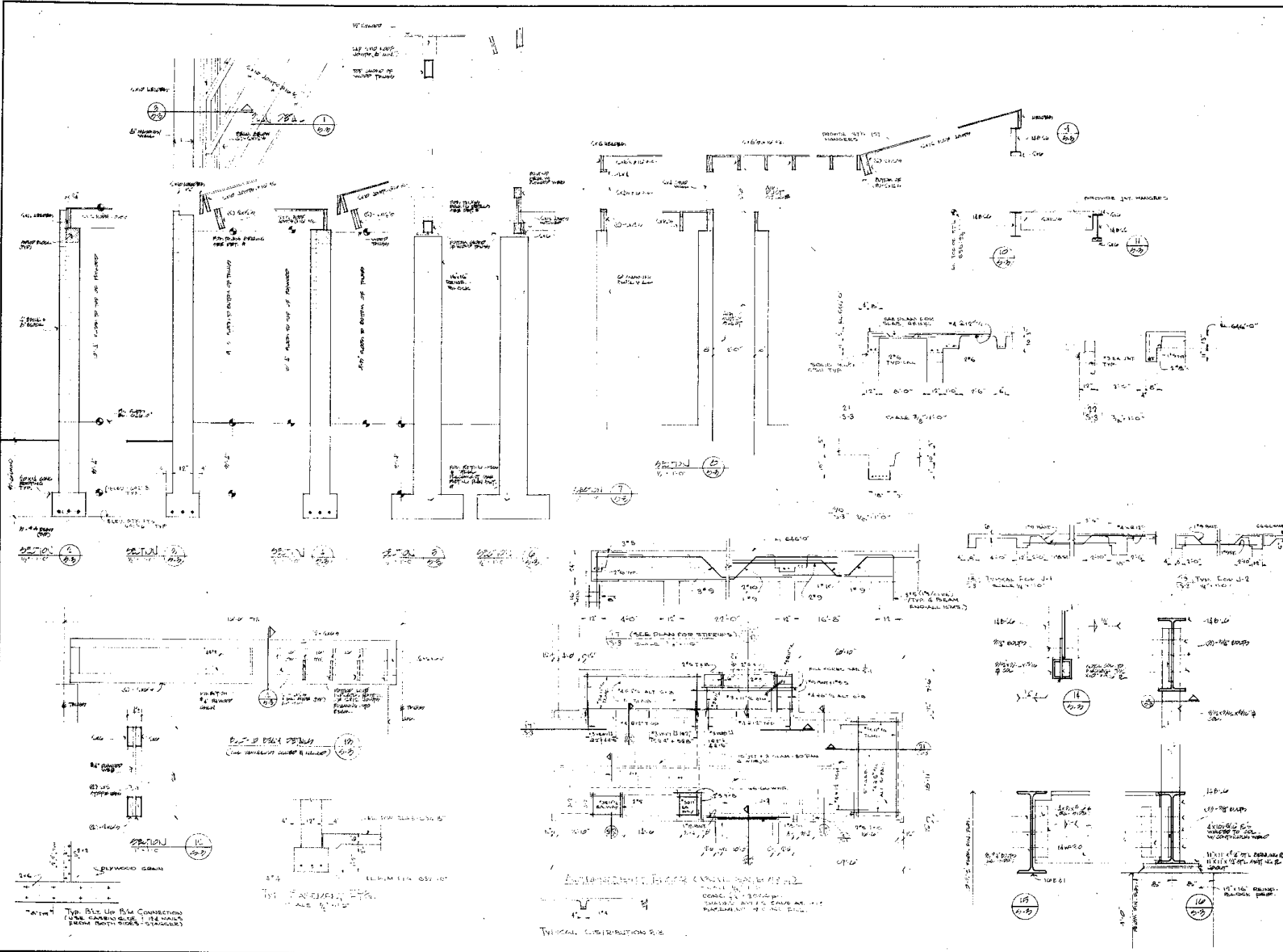
NEW
SOUTH DAVENPORT
LIBRARY

CITY OF DAVENPORT
DAVENPORT, IOWA

FOOT FRAMING PLAN
DETAIL

NO.	DESCRIPTION	DATE
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2	REVISED	10/1/60
3	REVISED	10/1/60
4	REVISED	10/1/60
5	REVISED	10/1/60
6	REVISED	10/1/60
7	REVISED	10/1/60
8	REVISED	10/1/60
9	REVISED	10/1/60
10	REVISED	10/1/60

DESIGNED BY	ROBERT M. DAVIS
CHECKED BY	JOHN J. DAVIS
APPROVED BY	JOHN J. DAVIS
DATE	10/1/60
PROJECT	NEW SOUTH DAVENPORT LIBRARY
6002	152



Gunnar Birkerts and Associates Architects

101 844084
100 North Wacker Drive, Chicago, Illinois

ROBERT H. DARVAS AND ASSOCIATES
CONS. STRUCT. ENGS.
ANN ARBOR, MICH.

NEW SOUTH BRANCH LIVONIA LIBRARY

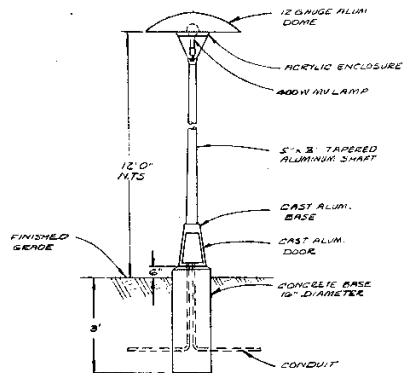
CITY OF LIVONIA
WAYNE COUNTY
MICHIGAN

SECTIONS & DETAILS

REVISIONS		
ITEM	DATE	BY

DRAWN: TSP, JND
 CHECKED: []
 APPROVED: []
 DATE: MAY 10, 1985
 SCALE: 1/8" = 1'-0"
 PROJECT: C502

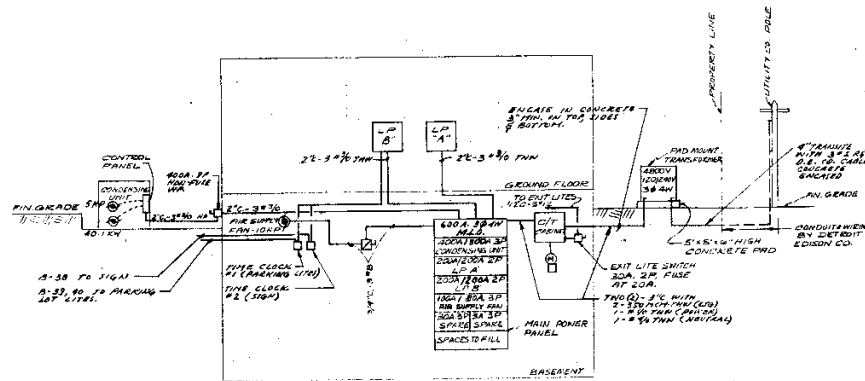
6302 . S A



LIGHTING FIXTURE "F"
MOUNTING DETAIL
NO SCALE

LIGHTING PANEL BOARD SCHEDULE					
LP	CLASS	MAINS	MOUNTING	BRANCHES	CONNECTED LOAD
A	120/240V	200 A.	FLUSH	30-1P 20A. 5-2P 20A. (ELECT. MTR.)	36 KW
B		200 A.	FLUSH	2H-1P 20A. 1-2P 20A (ELECT. MTR.) 1-2P 50A RANGE	30 KW

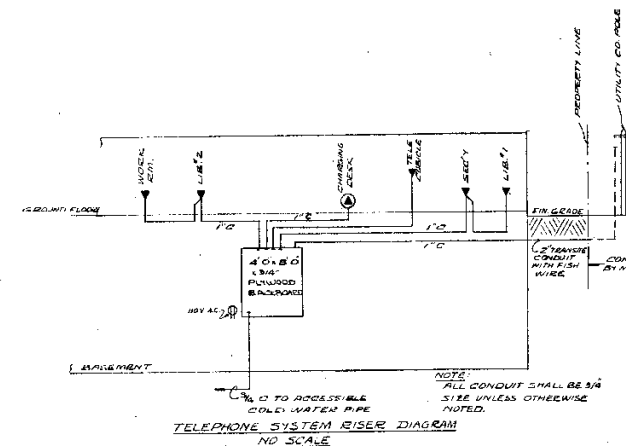
NOTE:
BUSH (3) BARS 1" C. FROM EACH FLUSH MOUNTED LIGHTING
RAMP. BP INTO POSITIVE CEILING BRIDGE.



NOTE:
USE TIME DELAY DUAL ELEMENT
TYPE FUSES IN ALL FUSE ENCLOSURES

MAIN ELECTRICAL RISER DIAGRAM
NO SCALE

ELECTRICAL SYMBOLS	
SYMBOL	DESCRIPTION
	FLUORESCENT LIGHTING FIXTURE
	HOME RUN TO LIGHTING PANEL
	CEILING MOUNTED INCANDESCENT LIGHTING FIXTURE
	WALL MOUNTED INCANDESCENT LIGHTING FIXTURE
	FLUORESCENT STRIP LIGHTING FIXTURE
	EXIT LIGHT
	JUNCTION BOX
	SINGLE POLE LIGHT SWITCH
	TWO POLE LIGHT SWITCH
	THREE WAY LIGHT SWITCH
	FOUR WAY LIGHT SWITCH
	KEY TYPE LIGHT SWITCH
	CLOCK OUTLET
	TELEPHONE WALL OUTLET
	110V DUPLEX PLUG RECEPTACLE
	110V WEATHERPROOF DUPLEX RECEPTACLE
	LIGHTING PANEL
	SINGLE PHASE MOTOR
	THREE PHASE MOTOR
	POWER PANEL
	SINGLE PHASE MANUAL MOTOR STARTER
	THREE PHASE MAGNETIC MOTOR STARTER
	SAFETY SWITCH
	WEATHERPROOF
	ABOVE FINISHED FLOOR
	THERMOSTAT
	ELECTRIC RANGE OUTLET
	110V PLUG RECEPTACLE FLOOR TYPE
	TELEPHONE OUTLET FLOOR TYPE
	PUSHBUTTON STATION



NOTE:
ALL CONDUIT SHALL BE 3/4\"/>

TELEPHONE SYSTEM RISER DIAGRAM
NO SCALE

Gunnar Birkerts
and
Associates
Architects

161 844004
1000 North Woodward, Birmingham, Alabama

DIAGRAM CHECK
ASSOCIATES
CONSULTING
MECHANICAL AND
ELECTRICAL ENGINEERS

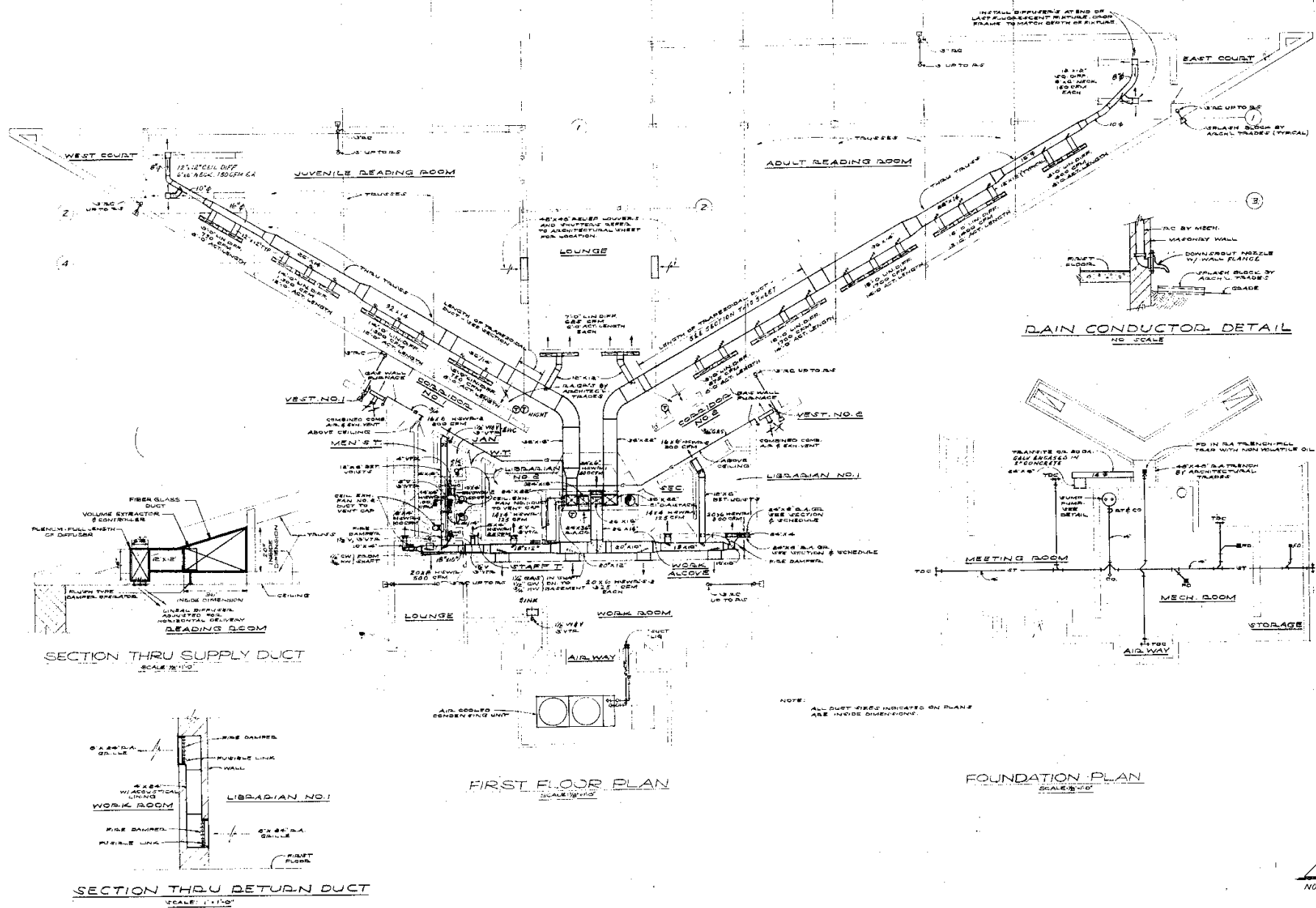
NEW
SOUTH BRANCH
LIVONIA LIBRARY

CITY OF LIVONIA
WAYNE COUNTY
MICHIGAN

SYMBOLS, RISER, MISC.

REVISIONS		
ITEM	DATE	BY

DRAWN BY	
CHECKED BY	
APPROVED BY	
DATE	05-16-1985
SCALE	M=1/8"
PROJECT	6502



**Gunnar Birkerts
and
Associates
Architects**

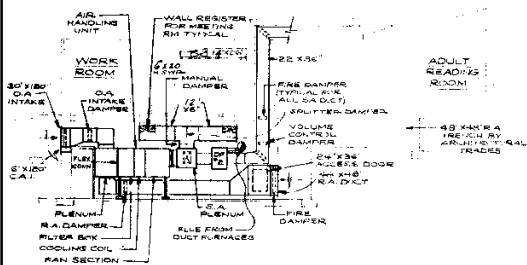
101 444004
1800 North Woodward Birmingham Michigan

**NEW
SOUTH BRANCH
LIVONIA LIBRARY**

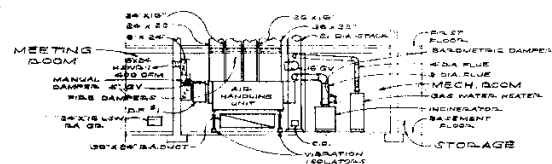
**CITY OF LIVONIA
WAYNE COUNTY
MICHIGAN**

**FOUNDATION
AND FIRST
FLOOR PLAN**

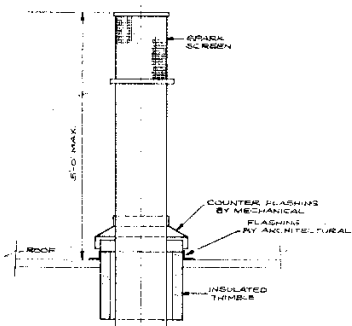




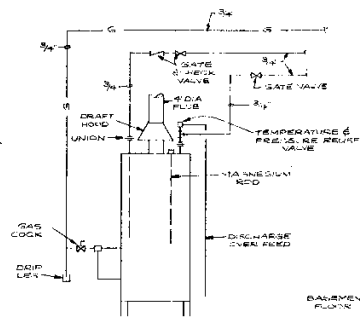
SECTION A-A
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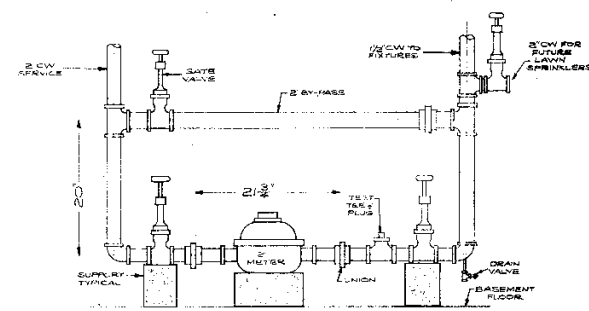
SECTION B-B
SCALE: 1/8" = 1'-0"



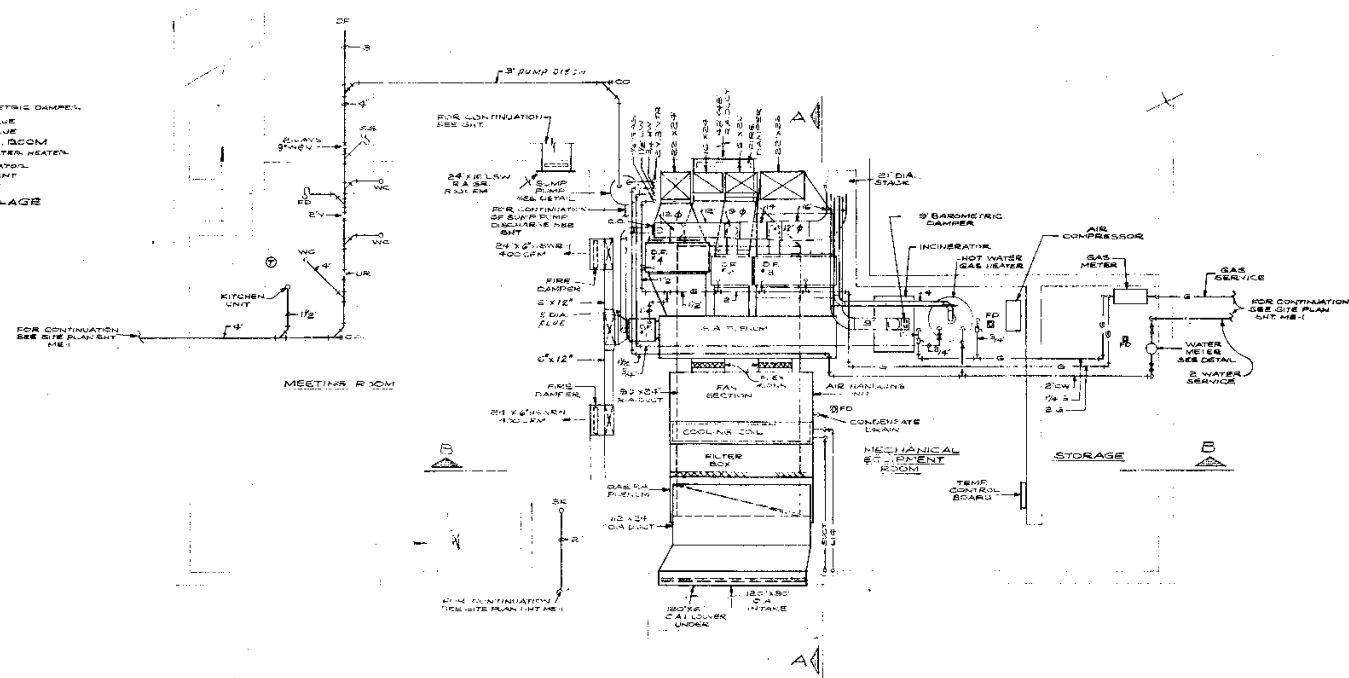
INCINERATOR, WATER HEATER,
 & DUCT FURNACE STACK DETAIL



HOT WATER HEATER DETAIL



WATER METER DETAIL
NO SCALE



BASEMENT PLAN
1/4" SCALE

**Gunnar Birkerts
and
Associates
Architects**

1200 North Woodward Birmingham, Michigan

NEW
SOUTH BRANCH
LIVONIA LIBRARY

CITY OF LIVONIA
WAYNE COUNTY
MICHIGAN

BASEMENT PLAN
SECTIONS AND
DETAILS

[illegible]

DRAWN	J.O.
CHECKED	EGS
APPROVED	EGS
FOR REVIEW	
DATE	OCT. 4, 1965
SCALE	
PROJECT	6502 M-3

GRILLES, REGISTERS & DIFFUSERS		
TYPE	MFG. MODEL	REMARKS
HSVR	TITUS L-275	SATIN ALUMINUM FINISH OPPOSED BLADE DAMPER
HSVR	TITUS L-270	SATIN ALUMINUM FINISH W/AG-40 FIRE DAMPER
HISWIR	TITUS L-275	SATIN ALUMINUM FINISH 20" S.C.S. LEAF
LINEAR DIFFUSER	TITUS ML-2570	SATIN ALUMINUM FINISH 4" SLOT
CEILING DIFFUSER	TITUS TM-200-23	BAKER WHITE FINISH 4" IN
	SQUARE DIFF. PATTERN 44	40" X 20" SQUARE, 24" DIA. FRAME TO MATCH SURFACE 2" DIA. FITTINGS
RETURN AIR	TITUS AL-250	SATIN ALUMINUM FINISH
RETURN AIR	TITUS AL-1050	SATIN ALUMINUM FINISH W/AG-40 FIRE DAMPER - IN LIBRARY NO. 1 & WORK RM.

CEILING EXHAUST FANS		
TYPE	MFG. MODEL	REMARKS
CEIL. EXH. FAN #1	EMERSON ELECTRIC 2208	200 CFM 65 WATT 3 SPEED
CEIL. EXH. FAN #2	EMERSON ELECTRIC 2210	225 CFM 60 WATT 2 SPEED

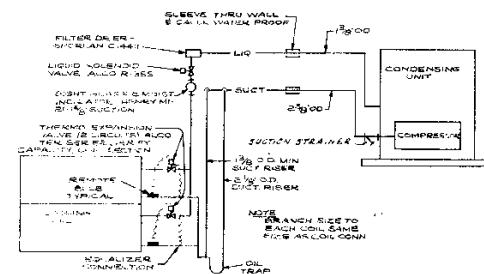
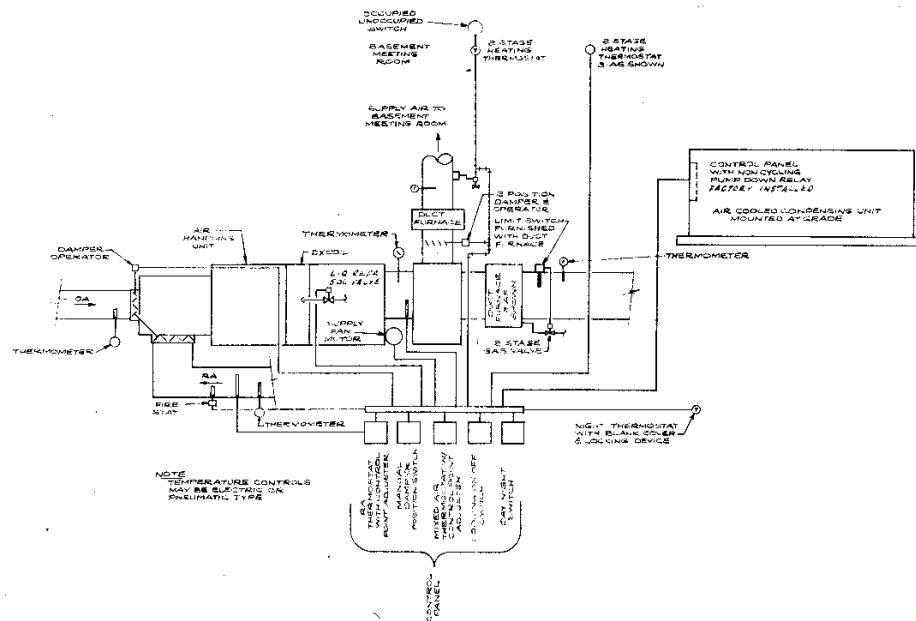
GAS WALL FURNACE	
TEMPCO PREVENT GAS WALL FURNACE 30000 BTU/HR INPUT, 21000 BTU/HR OUTPUT, MODEL NO. 308-B	

AIR HANDLING UNIT	
TRANS. MODEL NO. 21 LOW PRESSURE DRAW THRU UNIT, 2-20 DW DFC RANS, 16000 CFM @ 2.5" D.P.	
30 MAX. BHP. 10 HP. 220V, 3 PH. MOTOR, 3/4" DIA. 1800 RPM C.V.	
COOLING COIL - 22" DIA. 30" LONG, 1/4" DIA. MIN. 48" DIST. IN TUBE	
LEAVING - 58°F DB, 54°F WB	

AIR COOLED CONDENSING UNIT	
TRANS. MODEL 124700 CAPACITY 40.4 TONS AT 35°	
AMBIENT AIR TEMP. 44°F DB, 34°F WB, 40.1 KW INPUT	
220V, 3 PH. CONDENSER FAN MOTOR - 5HP, 1150 RPM	
220V, 3 PH. 60W	

DUCT FURNACES		
DEF	DEF. NO. & SIZE	CFM & R.O.
DEF1	DEF. NO. 1 X-50	30,000 BTU/HR. INPUT 40,000 BTU/HR. OUTPUT 800 0.20"
DEF2	DEF. NO. 2 X-100	20,000 BTU/HR. INPUT 16,000 BTU/HR. OUTPUT 8500 0.42"
DEF3	DEF. NO. 3 X-40	10,000 BTU/HR. INPUT 12,000 BTU/HR. OUTPUT 7400 0.25"
DEF4	DEF. NO. 4 X-80	20,000 BTU/HR. INPUT 28,000 BTU/HR. OUTPUT 5000 0.20"

WATER HEATER	
LOCKHEART BUICK CO. MODEL 604-1 60 GALL. STORAGE	
65,000 BTU/HR. INPUT 52,000 BTU/HR. OUTPUT	



Gunnar Birkerts
and
Associates
Architects

1800 North Woodward Birmingham, Alabama 35203
205 944-1924

NEW
SOUTH BRANCH
LIVONIA LIBRARY

CITY OF LIVONIA
WAYNE COUNTY
MICHIGAN

TEMPERATURE
CONTROLS AND
SCHEDULES

REVISION	DATE	BY

DRAWN: J.D.	
CHECKED: EGS	
APPROVED: EGS	
DATE: OCT 4, 1965	
SCALE:	
PROJECT:	
6502	M-4

Regular Meeting Minutes of February 24, 2025

On a motion by Council President McCullough, supported by Councilmember Budzinski, and unanimously adopted, it was:

#54-25 RESOLVED, that upon the motion by Council President Brandon McCullough, seconded by Councilmember Carrie Budzinski, at the Regular Meeting held February 24, 2025, the Council does hereby direct the Administration to procure the services of a qualified and licensed civil engineer who will conduct a structural assessment of the Noble Building and issue a stamped report to council within 60 days of the date of this resolution for an amount not to exceed \$20,000.00; FURTHER, the Council does hereby authorize an expenditure in an amount not to exceed \$20,000 from funds budgeted in Account No. 401-000-971-000 for Council initiatives.

<i>RESOLUTION REQUESTED BY COUNCIL (Regular Meeting of February 24, 2025)</i>

Motion:	McCullough
Second:	Budzinski
Ayes:	Toy, Donovic, Ptashnik, Budzinski, Scheel, Morgan and McCullough
Nays:	None
Absent:	None

Regular Meeting Minutes of November 6, 2024

A communication received from resident Jeanine Miller, 9311 Woodring Street, dated October 20, 2024, requesting Council's approval of funds for the Alfred Noble Facility Infrastructure Assessment, was received and placed on file for the information of the Council.

An email communication received from Janeane Bickham, dated October 17, 2024, regarding updates needed at Sheldon Park, was received and placed on file for the information of the Council.

President McCullough provided a report on the Committee of the Whole meeting held October 16, 2024, re: the subject matter of the Noble Library and Sheldon Park Issues and indicated the item will remain in Committee. (CR 116-24)

<i>UNFINISHED BUSINESS ITEM 5a (Regular Meeting of November 6, 2024)</i>

Present:	Budzinski, Morgan, Toy, Jolly, Ptashnik, Donovic, McCullough
Absent:	None

From: noreply@civicplus.com
To: [CityCouncil](#)
Subject: Online Form Submittal: City Council Inquiries
Date: Sunday, October 20, 2024 6:53:48 PM

City Council Inquiries

This form is for any questions, comments, or concerns you may have for the City in regards to city council meetings or other city council inquiries. If you leave contact information, the City will reply within 2 business days. If this is an emergency, please dial 9-1-1.

First Name	Jeanine
Last Name	Miller
Address	9311 Woodring St
Email Address	jeaninemiller00@gmail.com
Phone Number	248-318-3211
Topic	City Council Meetings
Date of Issue	10/21/2024
Attachment (Optional)	<i>Field not completed.</i>
Comments	Hello, Please approve funds for the Alfred Noble Facility Infrastructure Assessment. The residents deserve to know exactly what is needed to restore and preserve this iconic, historic building. We can all work together to open the doors, discover the possibilities, put forth the efforts to attain grants and funding so that the community can once again enjoy this wonderful space. The future of this space can be an innovative maker space, a meeting space for community groups, speakers and children's activities. The ideas are endless. This building cannot be ignored in the vision for the future of Livonia. Thank you.

Email not displaying correctly? [View it in your browser.](#)

From: [Janeane Bickham](#)
To: [CityCouncil](#)
Subject: Alfred Noble and Sheldon Park
Date: Thursday, October 17, 2024 11:57:59 AM

I wanted to thank the council members for attending the meeting at the park last night. It was so nice that you took time to attend.

It is crucial that something be done to that building soon. Mold has been there since 2019. I continue to be very disappointed that, after so many years, we don't know the cost of repair (unless someone is just not sharing). We had mold in our basement one time and we easily received a quote, removed the mold and resolved the issue within a month!

I was pleased to hear last night that there are no plans to get rid of Sheldon Park. I hope that some of our tax money will be used soon to update the park. We have been disappointed that the tennis courts have been neglected. We no longer play there because of their condition. Please also consider pickleball courts. Wherever we try to play, the courts are always full. So Livonia needs more courts. Bicentennial park is nice but a bit of a drive for us. We would also use the pool at Sheldon if it were open more. We no longer have young children but a splash pad would also be nice if it can be set up. The other thing we would use is a walking path around the outer edges of the park similar to the one set up at Mies Park.

Please keep us informed of the progress of the building and the park. This issue has been going on way too long!

Thanks for your consideration.

Janeane Bickham

From: noreply@civicplus.com
To: [CityCouncil](#)
Subject: Online Form Submittal: City Council Inquiries
Date: Wednesday, October 16, 2024 9:22:38 AM

City Council Inquiries

This form is for any questions, comments, or concerns you may have for the City in regards to city council meetings or other city council inquiries. If you leave contact information, the City will reply within 2 business days. If this is an emergency, please dial 9-1-1.

First Name	Noral
Last Name	Ford
Address	15655 Stamford
Email Address	fordnoral@sbcglobal.net
Phone Number	734-516-8134
Topic	Other City Council Inquiry
Date of Issue	10/16/2024
Attachment (Optional)	<i>Field not completed.</i>
Comments	Dear Council, This is in regard to the Sheldon Park meeting today at the Gazebo. I will be attending and have an idea. I contacted the mayor's office once on this topic the response from a staffer being only to point out the City of Livonia owns the property the Alfred Noble Library building sits upon. This is well understood. I am also a deacon at Four Winds Church on Seven Mile. We are sorely in need of a larger building with no room to expand at our current location. One idea that could solve a number of problems would be to work out a lease agreement between the city and Four Winds. Livonia would retain ownership if something should happen to the church. Four Winds would in turn improve and repair the building and grounds at no cost to Livonia. We could and would bring the building and parking up to current code including abatement of mold or damage that has occurred. We would like to be a pillar in the community by also providing an indoor, supervised play area/children's library available during church office hours. Saving the architecture, aiding the community, saving and earning Livonia some income all could become possible. I will be there tonight and will speak if that opportunity arises. Feel free to call me or email me back if you would like to

discuss this further, even beforehand.
Thanks,
Noral Ford, long time Livonia resident.
734-516-8134

Email not displaying correctly? [View it in your browser.](#)



LETTER TO THE LIVONIA CITY COUNCIL

1.

Council Office
September 24, 2024

MEETING DATE

COW101624/R110624

PRESENTED BY

AGENDA ITEM

The subject matter of the Noble Library and Sheldon Park issues. (CR 116-24)

BACKGROUND DETAILS

At the Regular Meeting of May 20, 2024:

President McCullough gave report on the Committee of the Whole meeting of April 3, 2024.

On a motion by Councilmember Jolly, supported by Councilmember Toy and unanimously adopted, it was:

CR 177-24 RESOLVED, that having considered the report and recommendation of the Committee of the Whole, dated April 3, 2024, submitted pursuant to Council Resolution 116-24, regarding the subject matter of the Noble Library and Sheldon Park issues, the council does hereby authorize the Administration to maintain the Noble Library property so as to prevent further deterioration.

On a motion by Councilmember Budzinski, supported by Vice President Ptashnik it was:

CR 178-24 RESOLVED, that having considered the report and recommendation of the Committee of the Whole, dated April 3, 2024, submitted pursuant to Council Resolution 116-24, regarding the subject matter of the Noble Library and Sheldon Park issues, the Council does hereby refer this item to the Administration for its report and recommendation regarding the cost of returning Noble Library to fitness for occupancy as determined by formal inspections and tests.

At the Regular Meeting of March 20, 2024:

RESOLVED, that upon the motion by Council President Brandon McCullough, seconded by Councilmember Carrie Budzinski, at the Regular Meeting held March 20, 2024, the Council does hereby refer the subject matter of the Noble Library and Sheldon Park issues to the Committee of the Whole for its report and recommendation. (CR 116-24)

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

To discuss the subject matter as presented.

ATTACHMENTS

1. COW093024 Library Comm letter - New Data recd 9-20-24
2. COW093024 Noble maint update - New Data recd 9-20-24
3. COW093024 LTC Noble Library updates

4. R052024 Administration for report of cost to return Noble Library to fitness of occupancy CR 178-24
5. R052024 Administration to maintain Noble Library property CR 177-24
6. COW040324 LTC Noble Library/Sheldon Park (from COI to COW)
7. R071023 Subject matter of the future of Noble Library to COI CR 202-23
8. OHM Updated Cost Estimate 04-2023 Noble Library 4-5-23
9. R031323 Library Strategic Plan item
10. R031323 OHM Findings Alfred Noble Library

APPROVED BY



LETTER TO THE LIVONIA CITY COUNCIL

1.

Council Office
August 7, 2024

MEETING DATE

COW093024/R102124

PRESENTED BY

AGENDA ITEM

The subject matter of the Noble Library and Sheldon Park issues. (CR 116-24)

BACKGROUND DETAILS

At the Regular Meeting of May 20, 2024:

President McCullough gave report on the Committee of the Whole meeting of April 3, 2024.

On a motion by Councilmember Jolly, supported by Councilmember Toy and unanimously adopted, it was:

CR 177-24 RESOLVED, that having considered the report and recommendation of the Committee of the Whole, dated April 3, 2024, submitted pursuant to Council Resolution 116-24, regarding the subject matter of the Noble Library and Sheldon Park issues, the council does hereby authorize the Administration to maintain the Noble Library property so as to prevent further deterioration.

On a motion by Councilmember Budzinski, supported by Vice President Ptashnik it was:

CR 178-24 RESOLVED, that having considered the report and recommendation of the Committee of the Whole, dated April 3, 2024, submitted pursuant to Council Resolution 116-24, regarding the subject matter of the Noble Library and Sheldon Park issues, the Council does hereby refer this item to the Administration for its report and recommendation regarding the cost of returning Noble Library to fitness for occupancy as determined by formal inspections and tests.

At the Regular Meeting of March 20, 2024:

RESOLVED, that upon the motion by Council President Brandon McCullough, seconded by Councilmember Carrie Budzinski, at the Regular Meeting held March 20, 2024, the Council does hereby refer the subject matter of the Noble Library and Sheldon Park issues to the Committee of the Whole for its report and recommendation. (CR 116-24)

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

To discuss the subject matter as presented.

ATTACHMENTS

1. R052024 Administration for report of cost to return Noble Library to fitness of occupancy CR 178-24
2. R052024 Administration to maintain Noble Library property CR 177-24

3. COW040324 LTC Noble Library/Sheldon Park (from COI to COW)
4. R071023 Subject matter of the future of Noble Library to COI CR 202-23

APPROVED BY

LIVONIA PUBLIC LIBRARY

KRISTEN EDSON
Library Director

MAUREEN MILLER BROSNAN
Mayor

LIVONIA CIVIC CENTER LIBRARY

32777 FIVE MILE ROAD
Livonia, Michigan 48154-3045
Phone: (734) 466-2491
Fax: (734) 421-4860

LIBRARY COMMISSION

Carol Bagazinski
Mary Morrison
Carrie Ryckman
Claire Sheldon



ALFRED NOBLE BRANCH

32901 PLYMOUTH ROAD
Livonia, Michigan 48150-1793
Phone: (734) 421-6600
Fax: (734) 421-6606

CARL SANDBURG BRANCH

30100 SEVEN MILE ROAD
Livonia, Michigan 48152-1918
Phone: (248) 893-4010
Fax: (248) 476-6230

VEST POCKET LIBRARY

15218 FARMINGTON ROAD
Livonia, Michigan 48154-5417
Phone: (734) 466-2559

July 8, 2024

Mayor Maureen Miller Brosnan
33000 Civic Center Dr.
Livonia, MI 48154

Dear Mayor Brosnan,

Due to environmental issues, the Alfred Noble Library was closed in 2019 by Mayor Dennis Wright. In 2021, the Library Commission voted to support the demolition of the building due to public health concerns caused by severe mold issues.

On June 20, 2024, the Library Commission, per commission resolution #16-24, moved to recommend the decommissioning of the Alfred Noble Library building effectively transferring all future matters regarding the facility to the City of Livonia.

Respectfully,

Mary Morrison, Chairperson
Livonia Library Commission

Cc: Dave Varga, Chief of Staff
Kristen Edson, Library Director

Enclosure: Library Commission Draft Meeting Minutes of June 20, 2024

OFFICE OF THE MAYOR

MAUREEN MILLER BROSNAN
MAYOR



33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3097
mayor@livonia.gov
(734) 466-2201

September 19, 2024

TO: Livonia City Council
RE: Maintenance of Noble Library property

The City Council passed a resolution (CR 116-24) related to the Alfred Noble building and property earlier this year, requesting a report and recommendation from the Administration on two issues. These are being addressed below.

As background, it should be noted the building was closed to library services in October of 2019, after mold was discovered in the building.

1. **"The Council does hereby refer this item to the Administration for its report/recommendation regarding the cost of returning Noble Library to fitness for occupancy as determined by formal inspections and tests."**

In April of 2023, the City received an estimate from OHM based on an update of costs that included renovating the building to provide a core and shell building with no specific interior layout ("white box"). That estimate set a cost of \$5.5 million to renovate the existing building and make the necessary site improvements to make the building fit for occupancy.

It is important to note that estimate does not include interior finishes, loose furnishings or equipment, or replacing sidewalks (other than for drainage). It is also important to note that estimate is 18 months old. And finally, recent inspections by DPW Building Maintenance delineate continued deterioration.

2. **"The Council does hereby authorize the Administration to maintain the Noble property so as to prevent further deterioration."**

By way of providing Council an update, the DPW continues to monitor the shuttered building and maintain upkeep of the property in accordance with our city-wide municipal property maintenance schedule. That includes cutting grass, as needed, and maintaining exterior landscaping.

DPW staff provides monthly inspections of the interior, with personal protective equipment in place due to the presence of mold.

Additionally, the City has become aware of non-employees trespassing on the building, trimming trees, posting signs and graffiti, and other unauthorized activities. It also appears someone may have entered the building. These activities obviously endanger the health and safety of those involved and create liability for the City. Therefore, we will be adjusting signage on the property to warn against trespassing in and on the building.

We have also become aware that the current white sign on the lawn has caused confusion among people who assumed the building is still an operating library, open to the public. We will be removing the sign.

Please let me know if you have any questions and thank you for your continued support.

Sincerely,

A handwritten signature in black ink that reads "Maureen Miller Brosnan". The signature is written in a cursive, flowing style.

Maureen Miller Brosnan
Mayor

Regular Meeting Minutes of May 20, 2024

On a motion by Councilmember Budzinski, supported by Vice President Ptashnik it was:

#178-24 RESOLVED, that having considered the report and recommendation of the Committee of the Whole, dated April 3, 2024, submitted pursuant to Council Resolution 116-24, regarding the subject matter of the Noble Library and Sheldon Park issues, the Council does hereby refer this item to the Administration for its report and recommendation regarding the cost of returning Noble Library to fitness for occupancy as determined by formal inspections and tests.

President McCullough passed the gavel to Vice President Ptashnik at 8:05 p.m.

The following residents spoke in favor of saving Noble Library:

Leslie Lynch Wilson, 1803 University Drive, Lincoln Park
Betsy Calhoun, 33023 Grennada
Jeff Dutka, former Livonia resident
Lori Narsession, President of Save the Noble Library
Jimmy Crowley, 14494 Yale
Cindy Fleming, 9025 Woodring
Deb Christiansen, West Chicago Street
Barbara Glover, 33288 Myrna Court

Christopher Martin, resident, shared his concerns about having one good library rather than three mediocre libraries. He is in favor of having just one good library.

Adam Kempa, 11405 Berwick, asked that they preserve the greenspace and asked that they put in a little kiddie library.

A roll call vote was taken on the foregoing resolution with the following result:

AYES: Toy, Jolly, Budzinski, Ptashnik, and McCullough

NAYS: Morgan and Donovic

President McCullough resumed the chair at 8:18 p.m.

<i>UNFINISHED BUSINESS ITEM 15b. (Regular Meeting of May 20, 2024)</i>

Motion:	Budzinski
Second:	Ptashnik
Ayes:	Toy, Jolly, Budzinski, Ptashnik, McCullough
Nays:	None
Absent:	Morgan, Donovic

Regular Meeting Minutes of May 20, 2024

On a motion by Councilmember Jolly, supported by Councilmember Toy and unanimously adopted, it was:

#177-24 RESOLVED, that having considered the report and recommendation of the Committee of the Whole, dated April 3, 2024, submitted pursuant to Council Resolution 116-24, regarding the subject matter of the Noble Library and Sheldon Park issues, the council does hereby authorize the Administration to maintain the Noble Library property so as to prevent further deterioration.

<i>UNFINISHED BUSINESS ITEM 15b. (Regular Meeting of May 20, 2024)</i>
--

Motion:	Jolly
Second:	Toy
Ayes:	Morgan, Toy, Jolly, Budzinski, Ptashnik, Donovic, McCullough
Nays:	None
Absent:	None



LETTER TO THE LIVONIA CITY COUNCIL

2.

Council Office
March 21, 2024

MEETING DATE

COW040324/R041524

PREPARED BY

Sara Kasprowicz, Council Office Manager,

AGENDA ITEM

The subject matter of the Noble Library and Sheldon Park issues. (CR 116-24)

BACKGROUND DETAILS

At the Regular Meeting of March 20, 2024:

RESOLVED, that upon the motion by Council President Brandon McCullough, seconded by Councilmember Carrie Budzinski, at the Regular Meeting held March 20, 2024, the Council does hereby refer the subject matter of the Noble Library and Sheldon Park issues to the Committee of the Whole for its report and recommendation. (CR 116-24)

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

To discuss the subject matter as presented.

SPECIFIC NAME OF PRODUCT AND NUMBER TO BE PURCHASED (if more than one)

CONTRACT: Amount and/or purchase price and length of contract (with dates if applicable)

DETAILED WORK BEING PERFORMED

FISCAL CONSIDERATIONS (Amount requested and Account(s) used. If applicable, Grant Funding information)

ACCEPTANCE OF BID (Please detail the following: Why accepted, why not lowest bidder, company name, contact person, full address)

REASON TO WAIVE BID PROCESS (Emergency, Professional services, No advantage to City and why, Consortium package, etc):

ATTACHMENTS

1. R071023 Subject matter of the future of Noble Library to COI CR 202-23

APPROVED BY

Regular Meeting Minutes of July 10, 2023

On a motion by Councilmember McCullough, supported by Councilmember Donovic and unanimously adopted, it was:

CR# 202-23 RESOLVED, that upon the motion by Councilmember Brandon McCullough, seconded by Councilmember Rob Donovic, at the Regular Meeting held July 10, 2023, the Council does hereby refer the subject matter of the future of Noble Library to the Capital Outlay and Infrastructure Committee for its report and recommendation.

Darryl Smith, 14006 Brookfield, said he is happy to see action taken.

<i>RESOLUTION REQUESTED BY COUNCILMEMBER B. MCCULLOUGH (Regular Meeting of July 10, 2023)</i>
--

Motion:	McCullough
Second:	Donovic
Ayes:	McCullough, McIntyre, Toy, Bahr, Donovic, Morgan, Jolly
Nays:	None
Absent:	None

Regular Meeting Minutes of March 13, 2023

On a motion by Vice President Toy, supported by Councilmember McIntyre and unanimously adopted, it was:

CR 83-23 RESOLVED, that having considered the report and recommendation of the Library Director, dated February 15, 2023, which bears the signatures of the Director of Finance and the City Attorney, and is approved for submission by the Mayor, to which is attached a proposed Library Strategic Plan for the Livonia Public Library, prepared by Library IQ, the Council does hereby accept the bid of Library IQ, 2600 Tower Oaks Blvd., Suite 510, Rockville, MD 20852 for performing all work required in connection with facilitating the strategic planning process for the Livonia Public Library, in an amount not to exceed \$30,000.00; FURTHER, the Council does hereby authorize an expenditure in an amount not to exceed \$30,000.00 from funds already budgeted in Account No. 271-778-971-000 (Capital Outlay, Minor) for this purpose; FURTHER, the Council does hereby reject the bids of Rethinking Libraries, White Pine Solutions and Library Strategies in view of the Strategic Planning Committee (consisting of library department heads and two library commissioners) evaluating and scoring the four (4) proposals and interviewing the top two companies, leaving Library IQ with the majority of the votes; FURTHER, the Mayor and City Clerk are hereby authorized for and on behalf of the City of Livonia to execute a contract, approved as to form and substance by the Department of Law, with Library IQ and to do all things necessary or incidental to the full performance of this resolution.

<i>CONSENT AGENDA ITEM 1 (Regular Meeting of March 13, 2023)</i>
--

Motion:	Toy
Second:	McIntyre
Ayes:	McIntyre, Toy, Bahr, Donovic, Morgan, McCullough, Jolly
Nays:	None
Absent:	None

**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD FEBRUARY 27, 2023**

Meeting was called to order at 8:00 p.m. by Council Vice President Toy. Present: Kathleen McIntyre, Scott Bahr, Rob Donovic, Scott Morgan, Brandon McCullough, and Laura Toy. Absent: Jim Jolly.

Elected and appointed officials present: Susan Nash, City Clerk; Leo Neville, Assistant City Attorney; Todd Zilincik, City Engineer; Mark Taormina, Director of Planning and Economic Development; Josh Sabo, Director of Communications, and Casey O'Neil, Information Systems Director.

Councilmember McIntyre led the meeting in the Pledge of Allegiance.

5. AWARD OF BID: Livonia Public Library, re: for a Strategic Plan Consultant for the Livonia Public Library, from budgeted funds.

Toni LaPorte, Library Director, presented the request to Council.

Councilmember McCullough asked if Toni knows who the Strategic Planning group will be comprised of.

Toni indicated it will include the new Library Director, Library Commissioners, employees from the library, and people from the community.

Councilmember McCullough asked that they consider including a couple of the councilmembers as well.

Councilmember McCullough offered an approving resolution for the Consent agenda.

DIRECTION:

APPROVAL

CONSENT



LETTER TO THE LIVONIA CITY COUNCIL

5.

Library
February 15, 2023

MEETING DATE

S022723/R031323

PREPARED BY

Toni LaPorte, Library Director,

AGENDA ITEM

AWARD OF BID: Livonia Public Library, re: for a Strategic Plan Consultant for the Livonia Public Library, from budgeted funds.

BACKGROUND

It is respectfully requested that City Council approve the bid from Library IQ to facilitate the strategic planning process for the Livonia Public Library. The selection was made by the strategic planning committee, consisting of library department heads and two library commissioners. The committee evaluated and scored four proposals, and the top two were selected for interviews. After interviewing the top two, scores were again compiled, leaving Library IQ with the majority of the votes.

This plan will include an up-to-date community profile and identification of community markets, an assessment of the library's environment, recommendations for improvements to services, finances, collection, technology (that integrates with the City's existing platforms), marketing, branding, staffing, and facility configuration. Also included will be recommendations for the establishment of a mechanism for a regular evaluation of library needs, concerns, and satisfaction with service.

RECOMMENDATION

We are asking the Council to approve the bid in the amount of \$30,000 from Library IQ, 2600 Tower Oakes Blvd. Suite 510 Rockville, MD 20852

FISCAL CONSIDERATION

Budgeted funds are available in the amount of \$30,000 from account 271-778-971-000, Capital Outlay, minor.

ATTACHMENTS

1. S022723 LTC Strat Consult Library
2. STRATEGIC PLAN RFP
3. Library IQ
4. Rethinking Libraries
5. White Pine Solutions
6. Library Strategies

APPROVED BY



Toni LaPorte, Library Director

Date: February 15, 2023



Michael Slater, Finance Director

Date: February 15, 2023



Paul Bernier, City Attorney

Date: February 15, 2023



Maureen Miller Brosnan, Mayor

Date: February 15, 2023

LIBRARY STRATEGIC PLAN

Livonia Public Library

libraryIQ



Todd Frager

STENZONCO

3

Cover Letter

4

Executive Summary

5

Consultant's Qualifications and Relevant Experiences

7

Key Personnel

9

Work Plan

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Exclusions or Exceptions

15

Budget and Fee Schedule

16

Statement of Insurance

17

References

September 26, 2022

Ms. Enna Bachelor
Purchasing Manager
City of Livonia
33000 Civic Center Dr
Livonia, Michigan 48154

Dear Ms. Bachelor:

Thank you for the opportunity to provide a proposal for strategic planning for the Livonia Public Library (LPL). We recognize the important role the Library plays in your community and look forward to supporting continued success through a high-quality strategic plan.

LibraryIQ professionals combine experience working with more than 100 successful libraries across the United States with understanding of best practices and emerging trends to help libraries better serve patrons and communities. LibraryIQ looks forward to collaborating with a wide range of stakeholders and providing insight and guidance to map an exciting and attainable future for the Livonia Public Library.

The enclosed proposal details how LibraryIQ will develop a strategic plan in collaboration with City, County and Library leaders, staff, stakeholders and the public. The project will ensure the Library meets current and future community needs while staying true to core values of free and open access to information, education, technology and life enrichment.

LibraryIQ is willing and able to provide the goods and services required for a successful engagement; (b) the proposer has read and understands the Request for Proposals; and (c) the Proposal is made in accordance with the Request for Proposals and is based upon the materials, products, systems and equipment required by the Request for Proposals.

Thank you for your interest and consideration.

Sincerely,

Mark Kunin

Mark Kunin | Regional Sales Executive
2600 Tower Oaks Boulevard, Suite 510
Rockville, Maryland 20852
(800) 638-8725
mark.kunin@lsslibraries.com

Executive Summary

LibraryIQ is a division of Library Systems & Services (LS&S), LLC, one of the largest library networks in the U.S. LS&S partners with local governments to operate high quality, patron-focused public libraries in communities nationwide.



Consultants are actively operating successful public libraries across the country. LibraryIQ has current, real-world experience in library management, governance, funding models and trends in library services.

Data-driven process provides analysis from two exclusive software packages. Access is included in the project fee. No other public library consultancy offers the depth and breadth of data analysis provided by LibraryIQ. This proposal includes access to the LibraryIQ Analytics Platform and proprietary library use analysis, including comparison to peer libraries in circulation, program attendance, etc.



Focus on equity will ensure **LibraryIQ's methodology for public engagement will ensure all residents are heard** and represented in LPL's strategic plan..

Staff will be involved and will learn a great deal about their Library, their community and their role in ensuring plan success. Strategic planning is a valuable career development opportunity and staff involvement will help manage cost.

Review of the current mission statement, values statement and motto and facilitation of revisions is included along with an up-to-date community profile and identification of community.

Methodology includes data analysis, best practices benchmark, online public survey and optional Social Pinpoint online community engagement. Focus groups and personal interviews with Library, education, business, government and community leaders, Commission, volunteers, patrons and the public provide depth and breadth of input. **Data analysis and public input are combined to form the basis for visionary yet realistic and achievable strategic goals and objectives.**

FORM OF PROPOSAL FORMS

Please see Appendix for an example of a completed strategic plan and proposal attachments.

Consultant's Qualifications and Relevant Experiences

LibraryIQ is eminently qualified to provide strategic planning services to LPL. Strategic planning is a core LibraryIQ service. Three factors make LibraryIQ stand out from the competition:

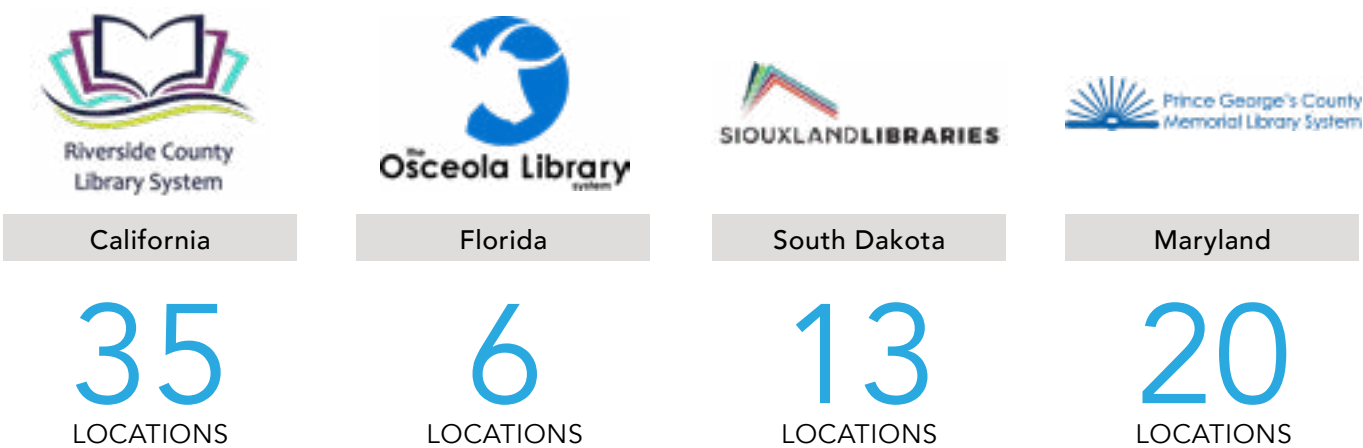
1. Consultants are **actively operating successful public libraries** in communities across the United States. From one-location libraries serving populations of 13,000 residents to 35-location systems serving 1.1 million, LibraryIQ **serves libraries and communities of many sizes and needs.**
2. Consultants have **current, real-world experience** in library management, governance, funding models and current trends in library services.
3. The LibraryIQ strategic planning process is **data-driven with quantifiable information** that informs goals and objectives. This **results in a fact-based plan** that can be used to support tax levy initiatives and other funding measures.



LibraryIQ expertise is demonstrated by the operations, services, technology and facilities plans developed in collaboration with the following libraries and communities during the past five years:

- Lena Armstrong Public Library, Belton, TX
 - Batavia Public Library, IL
 - Collegedale Public Library, TN
 - Camarillo Public Library, CA
 - Delaware Division of Libraries
 - Escondido Public Library, CA
 - Finney County Public Library, KS
 - Matanuska-Susitna Borough Libraries, AK
 - Musser Public Library, Muscatine, IA
 - New Port Richey Public Library, FL
 - Ethel M. Gordon Oakland Park Library, FL
 - Oberlin Public Library, OH
- Osceola Library System, FL
 - Palmdale City Library, CA
 - Given Memorial Library, Village of Pinehurst, NC
 - Prince George's County Memorial Public Library System, MD
 - Riverside County Library System, CA
 - Shasta Public Libraries, CA
 - Simi Valley Public Library, CA
 - Siouxland Libraries, SD
 - Upland Public Library, CA
 - Township of Upper Providence, PA
 - United States Army Robert F. Sink Library, Fort Campbell, KY
 - Yuba Public Library, Yuba County, CA

LibraryIQ experience with large public library systems similar to SCCCL includes:



Please see Appendix for examples of completed strategic plans.



Driven by Data

LibraryIQ provides data analysis from two exclusive software packages. Access is included in project fee. Consultants will combine this with existing City of Livonia data, including that from OrangeBoy. **No other public library consultancy offers the depth and breadth of data analysis provided by LibraryIQ.**



LibraryIQ Analytics Platform

[Software providing patron analysis](#) and segmentation that includes library use. This highly valuable, anonymized and detailed data reveals patron consumer segmentation groups (lifestyle, hobbies, preferred media channels, demographics, etc.) and links to library collection use. Data also includes anonymized maps outlining where patrons live. This segmentation data is also provided for City of Livonia households who are non-users.



Library Use Analysis

Proprietary technology compares Livonia Public Library data to Michigan and national averages, as well as to selected peer libraries of similar size and budget. Categories include Library Journal ranking, spending analysis, staff per 1,000 population and cost, visits, circulation, program attendance and funding trends. This comparison, based on publicly reported Institute of Museum and Library Services data, provides an excellent understanding of operations.



Focus on Equity

The Library's service population has declined in the past ten years from 96,942 to 95,535. In 2021, LPL's circulation was 560,379. All the City's unique communities and library cardholders must be represented in LPL's strategic plan. LibraryIQ will make recommendations on how LPL can more effectively serve patrons who have physical, visual or emotional impairments. **LibraryIQ's methodology for public engagement will ensure all communities are heard.**



Involve Staff

A strategic planning team comprising Library administrators, Commission members, City-County representatives and staff will play a key role in the process. LPL staff will participate on the team and their input will be an important part of the discovery process. **Staff will learn a great deal about their Library, their community and their unique role in ensuring plan success.** Strategic planning is a valuable career development opportunity for staff, and it is fun!

Key Personnel

The proposed team is available for the Livonia Public Library strategic planning project during the timeline below. No subcontractors will provide goods or services.



Deborah Joy, MLS

Marketing Director | Project Lead (Primary Point of Contact)

Phone: 410-456-5881 | Email: debbie.joy@lsslibraries.com

Debbie is a library professional with experience in public library strategy, marketing and development. At LS&S Debbie manages strategic planning and library assessment consulting for external clients as well as marketing for LS&S-operated libraries. She served as strategic planning project lead for the Osceola Library System in Florida, the Yuba County, Shasta County and Escondido Public Libraries in California and the Matanuska-Susitna Public Libraries near Palmer, Alaska. At the Enoch Pratt Free Library in Baltimore, Debbie's work included design and funding of literacy programs for children, teens and adults. Debbie brings a collaborative, strategic, results-driven approach. Debbie's marketing and grants experience combines with a deep dedication to the mission of the public library. She earned a Master of Library Science from the University of Maryland and a Bachelor of Science in Journalism from the University of Kansas.



Greg Vogt

Director of Information Technology

Greg has 25 years of information technology experience, including software testing, consulting, network administration and design, help desk supervision, database management, customer service supervision, project management and implementation. Greg serves as Director of Information Technology, providing expert analysis and coordination of IT services across member libraries to ensure a standard of excellence and innovation. Greg is experienced in grant research, writing, and implementation, strategic planning, statistics, reporting, and E-rate. In this capacity, Greg continues to monitor and oversee large-scale IT projects at Shasta Public Libraries, and is resident part-time in the Redding City Library.



Brian L. Mortimore SPHR, Director of Human Resources and Organizational Development, Kent District Library
Public and Stakeholder Engagement

Brian brings over 20 years' experience as a Human Resource professional in the library industry. He was published by the American Library Association's Library Journal. In 2020, Brian was named a "Mover and Shaker" by Library Journal for excellence in Human Resource Management in public libraries and specifically for his efforts to create the library industry's first employment assessment tool to aid libraries in candidate selection. Brian provides professional consultation to libraries on a variety of HR subjects related to libraries, including strategy development, performance management, staffing best practices, labor negotiations and compensation management.

An alum of Leadership Grand Rapids, he is the Director of Human Resources and Organizational Development for the Kent District Library where he also serves as Pension Plan Administrator with over 300 employees and 19 locations throughout Kent County. Brian has taught undergraduate human resource management classes and has presented professionally to local chapters of SHRM, the Michigan Library Association and other local businesses.

Brian is a true "Michigander" having been born, raised, educated and now working in the state of Michigan his entire life where he resides with his wife and four children. He holds a bachelor's degree from Lake Superior State University and a masters degree from Michigan State University (MSU).



Sara Roberts, MLS

Director of Library Operations

Sara manages operations for a variety of library systems, working closely with the Chief Library Officer to ensure quality services at all locations. Sara has worked in many libraries and brings that experience to several projects she manages to support LibraryIQ's libraries. Sara recently served as the Deputy Director of the Ventura, California library system and managed the Main Library of the Jacksonville Public Library, which included the Adult Literacy department, a Special Collections department and an innovative makerspace and art gallery. Sara is passionate about family engagement at the library, and co-authored a chapter in the book *The Relevant Library* (2018) titled "Family Engagement at the Library: Bringing Families Together to Learn, Grow and Have Fun". Sara is a project manager with a drive to improve libraries. She earned her first master's degree in teaching from Georgia College & State University and her second master's degree in Library Science from the University of Alabama.



Steve Coffman, MLS

Vice President for Library Support Services

Steve is an internationally-recognized expert on innovative approaches to library service. He introduced the Ask-Us-Now live virtual reference service and is responsible for a variety of innovations at LS&S including centralizing the Integrated Library System, acquisitions, and technical services functions in 84 libraries. In February 2004 Steve's article *Saving Ourselves: Plural Funding for Public Libraries: Can Libraries Break Their Dependence on Tax Monies by Following NPR's Example?* was published in *American Libraries* magazine. Steve has extensive experience with strategic planning and service design including the Finney County, Kansas Library, the Jackson-Madison County, Tennessee Library, and the Leander, Texas Library. Steve has significant experience in electronic access to library services. He earned a Master of Library Science from the University of California, Los Angeles and a bachelor's degree in the Humanities from San Francisco State University.



Rebecca Piazza

Content Marketing Specialist

Rebecca creates compelling content to drive engagement and fulfill the needs and interests of a variety of target audiences. From case studies, presentations, promotional copy, proposals and social media posts, Rebecca delivers consistency in the LS&S voice, style and tone. She has her Master of Fine Arts in Writing from Hollins University and a Bachelor of Fine Arts in Art and Design and a Bachelor of Science in English from Towson University.

Work Plan

LibraryIQ will provide recommendations for improvements to services, finances, collection, technology (that integrates with the City's existing platforms), marketing, branding, staffing and facility configuration. LibraryIQ proposes a collaborative strategic planning process and final plan that will position the Library for sustainability and success over the next five years.

Key points:

- LPL strategic plan will be developed collaboratively with the library administration, Commission, staff and stakeholders
- Process includes far-reaching and inclusive input from a cross-section of stakeholders including, but not limited to, community leaders, local residents, nonprofits, educators and business leaders
- LibraryIQ will identify the financial impacts of plan implementation and inform the development and execution of future ballot initiatives
- Project includes review of the current mission statement, values statement and motto and facilitation of revisions
- The strategic plan will be flexible, data-driven and realistic in scope. Project includes ongoing process for LPL staff and leaders to regularly review, evaluate and adjust strategic objectives and actions based on a changing operational environment

Background

LibraryIQ understands LPL is seeking a qualified, professional facilitator to develop a strategic plan for Library initiatives for the next five years.

Public libraries today are valuable community assets that reflect the values, wants and needs of the populations they serve. The COVID-19 pandemic significantly affected library operations throughout the country and world, and the pandemic's potential ongoing impact on customer and staff habits and needs has prompted many changes within the library sphere.

LPL has four branches, including the recently renamed Robert & Janet Bennett Civic Center Library. The Civic Center Library hosts a Friends Book Store, an Auditorium, meeting rooms and the Arts Commissions Art Gallery. LPL employs a total of 29 full-time and 26 part-time employees and a pool of approximately 15 substitute librarians.

Upcoming changes to the Library signify the importance of community revitalization and engagement. Between the pandemic and its resulting reduced Library hours, statistics have decreased but are on the rise again. The LPL is a member of The Library Network cooperative, participates in MeLCat (a statewide inter-library loan system) and uses TLC Carl automation system for its catalog. LibraryIQ will perform all obligations of the contract.

PHASE 1

Discovery and Analysis | October 31 - December 14, 2022

Please note these dates are subject to change pending project start date.

Library administrator will identify a Strategic Planning Team to collaborate on the project. The Strategic Planning Team will advise and ensure that the strategic plan reflects broad community objectives.

A virtual project kickoff meeting will include the Strategic Planning Team and LibraryIQ consultants to share the data collection and analysis approach (including comprehensive information request), confirm project scope, schedule and communication protocols. Project methodology and timeline will be confirmed.

LibraryIQ consultants will use proprietary technology to compare Livonia Public Library with selected peer libraries of similar size and budget across categories including Library Journal ranking, spending analysis, staff per 1,000 population and cost, visits, library use and five-year service and funding trends.

Data and Information Strategy

LibraryIQ will review existing conditions and map to public library best practices. Special attention will be paid to:

- Existing library utilization rates, relative to other communities of similar size and demographics.
- Services currently available

Livonia Public Library data and literature will be reviewed, including:

- Funding
- Capital project improvement plans
- Service delivery models
- Policies and practices
- Facilities
- Technology
- Programs, including underlying planning and evaluation processes
- Partnerships
- Outreach
- Statistics, including use rate, visits, circulation, technology access, etc.

Existing City of Livonia factors (environmental scan) will be reviewed including:

- Population demographics
- Growth projections
- Economic climate
- Educational climate, including local community colleges and universities
- Cultural climate
- Civic engagement
- Historical context

PHASE 2

Community Engagement | December 15, 2022 - February 27, 2023

Please note these dates are subject to change pending project start date.

LibraryIQ will collaborate with the Strategic Planning Team to execute an inclusive public engagement strategy designed to ensure broad community input.

Survey

An online survey will be conducted. The survey will be prepared by LibraryIQ with approval by the Strategic Planning team.

- Questions targeted to users focus on existing and potential new services
- Questions targeted to nonusers focus on why the resident has not used the Library and what services might spark use

The online survey link will be emailed to patrons (addresses from the LPL ILS). Additional email addresses for survey distribution will be generated from Livonia Public Library partner organizations, Strategic Planning Team members and other sources.

The survey link will be shared and promoted via library marketing channels (in-library signage and flyers, Livonia Public Library website, City of Livonia websites if possible, partner websites if possible, social media and local media). Paper surveys will also be available at Livonia Public Library locations (as identified by Strategic Planning Team) to provide representation to those without computer/mobile device and Internet access.

Outreach teams comprising LPL staff and volunteers will take tablets, paper surveys and/or bookmarks/flyers with the survey QR code out into the community. Farmers markets, holiday parades, cultural celebrations, grocery stores, laundromats and social services access centers are all good places to engage residents and yield results that are more representative of the entire community.

Online community engagement provided through Social Pinpoint will capture resident input and encourage broader reach, diversity and inclusion. Engagement Pages are a central portal for surveys, comments and open-ended ideas and use an intuitive, drag-and-drop interface. Note: Social Pinpoint is not included in the proposed project cost and is available for additional cost.

This wide-ranging approach will yield the largest number of survey participants.

Focus Groups

Sessions for stakeholders and the public will be employed to gather a broad cross-section of input. The Strategic Planning Team will identify key stakeholders, representatives from local organizations, members of all communities, demographic and socioeconomic groups, education representatives, business representatives and government officials and work with the LibraryIQ project lead to schedule.

LibraryIQ facilitators will listen carefully, ensure that all voices are heard, capture nuance and dig deep to reach the heart of participant comments—all vital to gathering authentic input. LibraryIQ will facilitate the following sessions:

- Two public sessions at two different library or community locations
- One session with Library Commission members

- One session with Foundation members and Friends
- One session with education representatives (focus on local schools)
- One session with nonprofit representatives (including literacy, health care and social services organizations)
- One session with LPL partner organizations
- One session with prominent citizens, business leaders and government officials
- One session with homeschool leaders

Staff Workshops

LibraryIQ will conduct one workshop with staff to review current successes and challenges and gather ideas about how LPL can innovate to fill education/technology/enrichment gaps in the community.

Individual Interviews

LibraryIQ consultants will conduct up to six one-to-one, in depth interviews with key stakeholders. Interviews will be conducted in person as possible and by phone as necessary. Suggested interviewees include:

- Library Director
- Library Commission Chair
- Foundation and/or Friends Group Chair
- City government leaders
- Other key stakeholders as identified by Strategic Planning Team

Note: This proposal assumes LibraryIQ will provide in-person sessions. Travel is included in the proposal cost. Virtual sessions using the Zoom platform are possible if preferred by Livonia Public Library leaders.

Key Milestones

- Survey drafted
- Survey approved
- Survey conducted
- Survey results compiled and analyzed
- Focus group participants identified
 - Focus groups scheduled
 - Focus group invitations and publicity complete
 - Focus groups conducted

LibraryIQ Analytics Platform Access

LibraryIQ will perform patron analysis and consumer segmentation during Phase Two. This highly valuable, anonymized and detailed data reveals patron consumer segmentation groups (lifestyle, hobbies, preferred media channels, demographics, etc.) and links to library collection use. Data also includes anonymized maps outlining where patrons live. This segmentation data is also provided for City of Livonia households who are non-users.

The analytics platform can also provide data about collection performance (including electronic materials), the diversity, equity and inclusion of the collection and real-time budget tracking.

This exclusive access to the LibraryIQ data analytics platform highlights library use patterns and enables and supports data-driven decision-making. The result is more tailored services to Library users and reach to non-users, increasing card registration.

PHASE 3

Presentation of Findings | February 10 - 28, 2023

Please note these dates are subject to change pending project start date.

LibraryIQ will prepare a presentation with an executive summary and detailed findings on all areas of discovery and analysis. Meaningful trends that emerged from external and internal engagement processes will be explained and gaps between current Library operations, services and programs will be included, along with recommendations.

High-level recommendations to best match Library operations, services, and programs to stakeholder needs and interests including an assessment of critical resources required to achieve alignment.

PHASE 4

Plan Development | March 1 - 30, 2023

Please note these dates are subject to change pending project start date.

LibraryIQ consultants will work closely with the Library Director, Strategic Planning Team and stakeholders to draft goals and objectives and compile a draft strategic plan. The plan will be dynamic and compelling and will identify essential library service priorities, goals and objectives for both the short and long terms, including those currently offered.

The plan will be shared with the Strategic Planning Team and stakeholders. During this iterative process, LibraryIQ consultants will incorporate feedback into a final plan, which will include a mechanism for reporting on progress to internal and external stakeholders as well as a plan for marketing the final product (including with respect to future ballot initiatives).

PHASE 5

Achievability Analysis | March 31 - April 14, 2023

Please note these dates are subject to change pending project start date.

LibraryIQ will provide analysis of the Library's organizational capacity to implement the plan including:

- Financial implications of implementation
- Gap analysis report of areas in which organizational capacity does not meet needs for implementation
- Recommendations for achieving plan goals and objectives

PHASE 6

Prepare And Deliver A Final Strategic Plan | April 17 - 28, 2023

Please note these dates are subject to change pending project start date.

LibraryIQ will prepare and deliver a written Livonia Public Library Strategic Plan that includes:

- Executive Summary outline of short and long term priorities and objectives
- Detailed report with clearly prioritized goals, timeline, measurable objectives, and evaluation methodology
- Communication Plan, including reporting tools
- Achievability/Gap Analysis Report and Recommendations for Ongoing self-assessment methodology and tools

LibraryIQ will present the plan to the Library Trustees and the Strategic Planning Team in a virtual meeting.

TIMELINE SUMMARY

Phase One: Discovery and Analysis

October 31 - December 14, 2022

Phase Two: Community Engagement

December 15, 2022 - February 27, 2023

Phase Three: Presentation of Findings

February 10 - 28, 2023

Phase Four: Plan Development

March 1 - 30, 2023

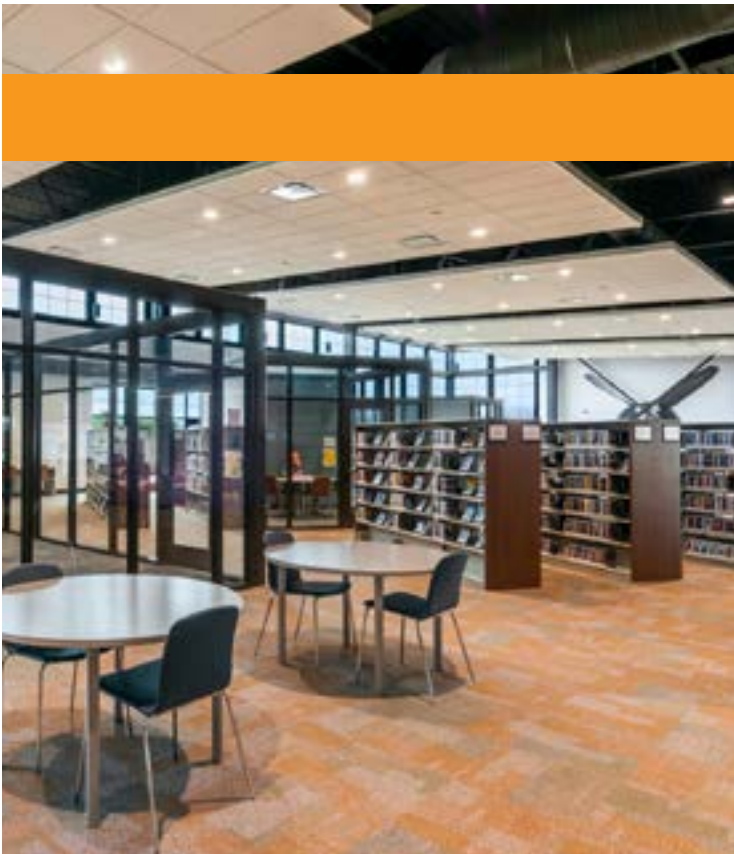
Phase Five: Achievability Analysis

March 31 - April 14, 2023

Phase Six: Prepare And Deliver A Final Strategic Plan

April 17 - 28, 2023

Timeline subject to change pending project start date.



Exclusions or Exceptions

There are no conflicts of interest that would deter LibraryIQ’s expertise.

Budget and Fee Schedule

ITEM	COST
Data Gathering and Analysis (community research)	\$13,550
Synthesize and Present Data, Prepare Strategic Plan	\$14,000
Supplies	\$250
LibraryIQ analytics platform patron segmentation data and analysis	Included in project cost
Travel (two consultants, three days to include staff day and onsite focus group facilitation)	\$2,200
Total Project Cost	\$30,000
OPTIONAL Onsite presentation of final plan	\$1,000

This pricing and offer for services is valid for 120 days and can be extended upon request by Livonia Public Library. LibraryIQ will invoice 50% upon contract execution and 50% upon project completion. Billing terms are net 30 upon receipt. The cost information above is proprietary and should be treated as such.

Statement of Insurance



CERTIFICATE OF LIABILITY INSURANCE

LIBRSY5-01

PATRA2

DATE (MM/DD/YYYY)
1/23/2020

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. IF SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER HUB Int'l Mid-Atlantic Inc. formerly The Insurance Exchange, Inc. 9713 Key West Avenue Suite 401 Rockville, MD 20850	CONTACT NAME Jeremy Welsh PHONE (A/C, No. EXT.) (301) 270-2039 FAX (A/C, No.) E-MAIL ADDRESS welsh.jeremy@tie-inc.com														
INSURED Library Systems & Services, LLC 2600 Tower Oaks Blvd., Suite #510 Rockville, MD 20852	<table border="1"> <thead> <tr> <th>INSURER(S) AFFORDING COVERAGE</th> <th>NAIC #</th> </tr> </thead> <tbody> <tr> <td>INSURER A: Travelers Indemnity Company of Connecticut</td> <td>25682</td> </tr> <tr> <td>INSURER B: Travelers Property & Casualty Company of America</td> <td>25674</td> </tr> <tr> <td>INSURER C:</td> <td></td> </tr> <tr> <td>INSURER D:</td> <td></td> </tr> <tr> <td>INSURER E:</td> <td></td> </tr> <tr> <td>INSURER F:</td> <td></td> </tr> </tbody> </table>	INSURER(S) AFFORDING COVERAGE	NAIC #	INSURER A: Travelers Indemnity Company of Connecticut	25682	INSURER B: Travelers Property & Casualty Company of America	25674	INSURER C:		INSURER D:		INSURER E:		INSURER F:	
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COVERAGES		CERTIFICATE NUMBER:		REVISION NUMBER:		
THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.						
REF. NO.	TYPE OF INSURANCE	ADDITIONAL INSURED	POLICY NUMBER	POLICY EFF. DATE	POLICY EXP. DATE	LIMITS
A	☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS MADE ☐ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☒ PROJECT ☒ LOC ☐ OTHER		0603P198363	12/1/2019	12/1/2020	EACH OCCURRENCE: \$ 1,000,000 DAMAGE TO RENTED PREMISES (Per occurrence): \$ 1,000,000 MED EXP (Per person injured): \$ 10,000 PERSONAL & ADJ INJURY: \$ 1,000,000 GENERAL AGGREGATE: \$ 2,000,000 PRODUCTS - COMPOD AGG: \$ 2,000,000
B	☒ AUTOMOBILE LIABILITY ☒ ANY AUTO ☐ OWNED AUTO ONLY ☐ HIRE/LEASED AUTO ONLY ☐ NON-OWNED AUTO ONLY ☐ AUTO ONLY		BA3P199187	12/1/2019	12/1/2020	COMBINED SINGLE LIMIT (Per accident): \$ 1,000,000 BODILY INJURY (Per person): \$ BODILY INJURY (Per accident): \$ PROPERTY DAMAGE (Per accident): \$
D	☒ UMBRELLA LIAB ☐ EXCESS LIAB ☒ RETENTIONS 10,000		CLIP3P281717	12/1/2019	12/1/2020	EACH OCCURRENCE: \$ 10,000,000 AGGREGATE: \$ 10,000,000
D	☒ WORKERS COMPENSATION AND EMPLOYERS LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/OWNER'S F&B COVERED (Mandatory in MD) IF YES, DISCLOSE UNDER DESCRIPTION OF OPERATIONS below	Y/N N	UN3P205580	12/1/2019	12/1/2020	☒ PER STATUTE ☐ OTH ER E.L. EACH ACCIDENT: \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE: \$ 1,000,000 E.L. DISEASE - POLICY LIMIT: \$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

EVIDENCE OF COVERAGE

CERTIFICATE HOLDER

EVIDENCE OF COVERAGE
EVIDENCE OF COVERAGE
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CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

ACORD 25 (2016/03)

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References



SIOUXLAND LIBRARIES, SOUTH DAKOTA

Strategic Plan 2022

Jodi Fick | Director

C200 North Dakota Ave | Sioux Falls SD 57117
605-367-8713 | jfick@siouxfalls.org

ESCONDIDO, CALIFORNIA PUBLIC LIBRARY

[Strategic Plan \(August 2018\)](#), [Full Library Operation](#)

Joanna Axelrod | Deputy City Manager, Director of Communications & Community Services

City Hall, Second Floor, 201 North Broadway |
Escondido, CA 92025
760-839-4871 | jaxelrod@escondido.org



OSCEOLA, FLORIDA LIBRARY SYSTEM

[Strategic Plan \(September 2020\)](#), Full Library Operation

David Barnett | Library Contract Manager, Human Services Manager

1 Courthouse Square, Suite 2400 | Kissimmee, FL
34741
407-742-8468 | David.Barnett@Osceola.org

YUBA COUNTY, CALIFORNIA LIBRARY

Strategic Plan and Library Assessment (December 2019)

Kevin Mallen | Director, Yuba County Community Development & Services Agency

915 8th Street | Marysville, CA 95901
530-749-5430, kmallen@CO.YUBA.CA.US



APPENDIX

Attachments and Strategic Plan Sample

FORM OF PROPOSAL
LIBRARY STRATEGIC PLAN

Bid of Library Systems & Services _____
hereinafter called Bidder, organized and existing under the laws of or a resident of the State of Michigan, doing business as LibraryIQ, a corporation*. * Insert as applicable: “a corporation”, “a partnership” or “an individual”

TO THE CITY OF LIVONIA, MICHIGAN, hereinafter called OWNER:

The undersigned as Bidder hereby declares: that this Bid is made in good faith without fraud or collusion with any person or persons bidding on the same Contract; that the Bidder has read and examined the Notice to Bidders, Instructions to Bidders, Bid, General Conditions, Supplementary Conditions, Agreement, Forms of Proposal, Bond, Specifications and Drawings, as prepared by the City of Livonia, and understands all of the same; that the Bidder or its representative has made personal investigation at the site and has become fully familiar with regard to the conditions to be met in the execution of this Contract, and the undersigned proposes to furnish all labor, materials, tools, power, transportation, and construction equipment necessary for the construction of the Project and performing related work in full accordance with the aforesaid Contract Documents, including any and all Addenda officially issued, their receipt of which is hereby acknowledged:

Addendum No. Addendum Date

The work may be awarded per item.

Item No.	Item Description	Complete for the Sum of:
1	Five-year strategic plan for the City of Livonia Library	\$30,000

FEE SCHEDULE

ROLE	DUTIES PERFORMED	HOURLY RATE
Lead consultant/LibraryIQ consultant team	Project management, communications with Livonia Public Library leaders and staff	\$140
LibraryIQ consultant team	Background information discovery and analysis	\$120 average
LibraryIQ consultant team	Community engagement	\$175 average

LibraryIQ consultant team	Staff workshop	\$175 average
LibraryIQ consultant team	Individual interviews	\$140
LibraryIQ consultant team	Data gathering and analysis/presentation of findings	\$120 average
LibraryIQ consultant team	Plan development/achievability analysis	\$175 average
LibraryIQ consultant team	Prepare and deliver final plan	\$140

In submitting this sealed bid, it is understood that the City of Livonia reserves the right to reject or accept any or all proposals in whole or in part and waive any irregularities and informalities therein. It is agreed that this bid may not be withdrawn for 120 days from the opening thereof.

Number of days it will take to complete the project upon being given notice to proceed 180 DAYS

The contractor and their sub-contractors agree that they will not discriminate against any employee or applicant for employment, to be employed in the performance of this contract with respect to their hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of their sex or age, except when based on a bona fide occupational qualification, or because of their race, color, religion, national origin or ancestry. (Act 453 P.A. 1976 As Amended) The contractor further agrees that they will take affirmative action to insure that applicants are employed and that employees are treated during employment without regard to age, sex, race, creed, color or national origin. Breach of this contract may be regarded as a material breach of contract.

Bidder will identify business entity as individual, or if doing business under assumed name, indicate assumed name, partnership, (naming partners), corporation, foreign or domestic (naming principal officers), and indicate official capacity of person executing proposal and bid.

Date 9-26-2022

Firm Name Library Systems & Services dba LibraryIQ
(If corporation, partnership, or assumed name)

Address 2600 Tower Oaks Blvd. Suite 510, Rockville, MD 20852

Signature Todd Frager (Person executing bid and official capacity)

Print Name Todd Frager

City Rockville State MD Zip Code 20852

Email todd.frager@lsslibraries.com

Phone (800) 638-8725 FAX _____

(Names of Principal Officers and designate (If partnership or assumed name, indicate official capacity) names of owners) Todd Frager, Chief Executive Officer

**CONTACT PERSON TO WHOM QUESTIONS REGARDING PROPOSAL RESPONSE
SHOULD BE DIRECTED:**

NAME: Mark Kunin

TITLE: Regional Sales Executive

PHONE: (800) 638-8725

EMAIL: mark.kunin@lsslibraries.com

LIBRARY STRATEGIC PLAN
REFERENCE FORM

COMPANY NAME: Library Systems & Services dba LibraryIQ

Reference Company Name: SIOUXLAND LIBRARIES
City/State: Sioux Falls, South Dakota
Summary of Work Performed: Public library strategic plan
Dates of Work: Completed April, 2022
Company Contact Person: Jodi Fick Title: Library Director
Phone Number: 605-367-8713 Email: jfick@siouxfalls.org

Reference Company Name: ESCONDIDO PUBLIC LIBRARY
City/State: Escondido, California
Summary of Work Performed: Public Library Strategic Plan
Dates of Work: Completed June, 2022
Company Contact Person: Joanna Axelrod Title: Deputy City Manager Director of Communications & Community Services
Phone Number: 760-839-4871 Email: jaxelrod@escondido.org

Reference Company Name: Osceola Library System
City/State: Osceola County, Florida
Summary of Work Performed: Public library strategic plan
Dates of Work: Completed September, 2020
Company Contact Person: David Barnett Title: Library Contract Manager, Human

Services Manager
Phone Number: 407-742-8468 Email:David.Barnett@Osceola.org

STATEMENT OF QUALIFICATIONS LIBRARY STRATEGIC PLAN

Respondents must answer all questions. If more space is needed to complete a question, attach a separate sheet.

Company Name: Library Systems & Services dba LibraryIQ

Address 2600 Tower Oaks Blvd. Suite 510. Rockville, MD 20852 Contact

Person: Mark Kunin Title Regional Sales Executive Phone

No. (800) 638-8725 Email mark.kunin@lsslibraries.com

1. Number of years operating under your present name: 39

2. Number of years present owners have owned the company: 2

3. How many years of experience does your company have providing the services specified in the bid documents? 5 years

4. List municipalities/public libraries who the bidder has serviced in the past five (5) years to present:

Name of Municipality	Term of Service
Sioux Falls, South Dakota	Public Library Strategic Plan, 2022
Camarillo, California	Public Library Strategic Plan, 2022
Collegedale, Tennessee	Public Library Strategic Plan, 2020
Osceola County, Florida	Public Library Strategic Plan, 2019
Escondido, California	Public Library Strategic Plan, 2018, 2022
Finney County, Kansas	Public Library Strategic Plan, 2021
Matanuska-Susitna Borough, Alaska	Public Library Strategic Plan, 2018

New Port Richey, Florida	Public Library Strategic Plan, 2022
Palmdale, California	Public Library Strategic Plan, 2021
Redding/Shasta County, California	Public Library Strategic Plan, 2018
Simi Valley, California	Public Library Strategic Plan, 2022
Upland, California	Public Library Strategic Plan, 2021
Yuba County, California	Public Library Strategic Plan, 2019

5. General nature of work performed by your company:
LibraryIQ provides public library consulting in the areas of strategic planning, operational assessment, facility assessment, technology assessment, facility master planning and community needs assessment. LibraryIQ also provides a software platform to help libraries better manage their resources and make data-driven decisions.

6. Have you performed work for the City of Livonia in the last ten (10) years? If so, please specify:

Year of Service	Department Served	Description of Services Provided
N/A		

SQ-1

7. List the members of the team who will oversee the contract and the roles they will perform.

Name	Title	Role	Years of Experience
Deborah Joy	Project Lead	Project Lead	15
Greg Vogt	Director of Information Technology	Library technology consultant	25

Brian Mortimore	Director of Human Resources	Staff and public engagement	20
Sara Roberts	Director of Library Operations	Data analysis, plan development	15
Steve Coffman	Vice President for Library Support Services	Data harvesting and analysis	40
Rebecca Piazza	Content Marketing Specialist	Background data harvesting and analysis	3

8. What challenges do you foresee?

Reaching library non-users can be a challenge in strategic planning efforts. This proposal addresses that challenge by adding outreach teams and robust marketing for survey and focus groups. Concern about funding for strategic objectives can also be a challenge, this proposal addresses that concern by including funding mechanism analysis in the project.

9. What is included in your base price for services? What services will incur additional fees: All services described in the attached proposal are included in base price for services.

COMPANY NAME: Library Systems & Services dba LibraryIQ

SIouxLAND LIBRARIES

Strategic Plan Fiscal Year 2022-2027



PREPARED FOR

Siouxland Libraries | Sioux Falls, SD
May, 2022

STUDENT CENTER

3	INTRODUCTION
4	STRATEGIC PLANNING PROCESS
5	KEY CHALLENGES
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INTRODUCTION

During the past eight months Siouxland Libraries engaged in an inclusive and thorough process of input and feedback from a diverse group of residents from Sioux Falls and Minnehaha County. The goal of the strategic planning process was to evaluate the Libraries' current state, identify opportunities and challenges and chart a course for a strong and vibrant future.

The communities served by Siouxland Libraries are growing and thriving and even more growth is projected in coming months and years. As the way residents interact with their libraries evolves, Siouxland Libraries will evolve by achieving the goals described in this plan.



Checkout of physical library materials (books, audiobooks, movies, etc.) has slowly decreased over the past several years, and use of digital content (in the form of e-books, e-audiobooks, e-magazines, downloadable music and movies, etc.) has increased, especially during the COVID-19 pandemic. More importantly, the library continues to play a more prominent role as a destination for community events and activities, services and programs. Consideration of this role is important in planning the Libraries future.

At the same time, books, reading and literacy remain an important part of library service.



Thank you to all the residents and staff who completed the survey, participated in focus groups or individual interviews and shared their time and expertise to support the strategic planning process.

STRATEGIC PLANNING PROCESS

When the strategic planning process began in November 2021 the team set out to answer three key questions:

1. What does the community want?
2. Where do we want to go and how do we get there?
3. How can Siouxland Libraries meet community desire and innovate to meet changing needs?

In an effort to answer these questions, the Libraries reached out to people throughout Sioux Falls and Minnehaha County. Through an online survey, focus groups, individual interviews and direct staff participation, ideas and feedback were gathered from nearly 1,300 people including business, education and nonprofit leaders, key stakeholders, library staff and—most important of all—patrons and volunteers.

National best practices and local data about services and statistics, actual facility use and service area demographics and projections were also an essential part of the analysis. Through this process, residents' current and future needs, broad community influences and the Libraries' crucial role in the community became apparent. Respondents agreed the Libraries are deeply valued community resources, and their appreciation for the Library's hardworking staff, affirmation of current services and programs and a strong desire for even more services, especially outside library walls, emerged. These findings formed the framework for the strategic goals in this plan.

The online survey was available for public input throughout the month of January 2022, and numerous focus groups were conducted in mid-February 2022. Some statistics and patron usages that this Plan is based on were impacted by COVID-19. Siouxland Libraries continued to adapt and enrich the community in new and thoughtful ways throughout the pandemic. As public libraries throughout the country move forward, Siouxland staff will monitor and make the necessary changes to meet their community mission and goals.

We Want to Hear FROM YOU!



SIOUXLAND LIBRARIES

Requesting
community input
on library services
for our upcoming
Strategic Plan.

KEY CHALLENGES

A few key challenges emerged from the research process:

1. Fast growth of service area, with newcomers comprising diverse nationalities and socioeconomic groups. A hub for information about the community, government and other services is needed.
2. Perception that Siouxland Libraries are primarily a place to check out books. There is less understanding of how Siouxland Libraries can be a community hub and the variety of exciting and useful services potentially available.
3. Assumption that brick and mortar locations are the only way to provide services, particularly in rural areas. There is a gap in community understanding about all the ways library services can be delivered.
4. Assumption that most library users are from underserved communities; patrons are in fact from many socioeconomic groups.
5. Lack of central staff responsibility for outreach/ partnerships and need to leverage community service agency relationships with clients and provide library services at partner facilities.



STRATEGIC PLANNING GOALS AND OBJECTIVES

During the community input process, desire for library services in four goal areas became clear:



COMMUNITY HUB/CULTURAL CONNECTOR

Goal Statement: Siouxland Libraries will provide experiences that bring the community together and celebrate Sioux Falls/Minnehaha County's rich traditions and embrace the diversity of a dynamic and growing community.

Siouxland Libraries will be the partner of choice for service agencies and community leaders.



TRADITIONAL AND EMERGING SERVICES

Goal Statement: Siouxland Libraries provide experiences that surprise and delight and are the center for lifelong learning in Sioux Falls and Minnehaha County.



FLEXIBLE SPACES

Goal Statement: Siouxland Libraries are dynamic, flexible welcoming spaces for people to gather, learn, connect and have fun.



SUSTAINABILITY

Goal Statement: Siouxland Libraries will be a good neighbor and community member through sound environmental practices, socially responsible policies and practices with sustainable growth and value to the public. Support City's sustainability efforts.

COMMUNITY HUB/CULTURAL CONNECTOR



Goal Statement:

Siouxland Libraries will provide experiences that bring the community together and celebrate Sioux Falls/Minnehaha County's rich traditions and embrace the diversity of a dynamic and growing community.

Siouxland Libraries will be the partner of choice for service agencies and community leaders.

STRATEGY	OBJECTIVE	TIMELINE
Educate residents about modern library services.	Create understanding among 40% of the service area population that libraries are places to connect with the community, access exciting new technology, have fun and enrich lives by conducting ongoing communication campaign.	Throughout the planning period (FY2023-2028)
	Market services by researching initiatives such as podcasts, video tutorial series, outreach opportunities, etc. Launch one unique service.	Q2 FY2023
	Increase new cardholder activity 5% by sending welcome newsletter specifically to new cardholders.	FY2023
Centralize responsibility for partnerships/ outreach.	Create a Community Engagement Coordinator position and hire one FTE.	FY2023
Leverage partnerships for marketing.	Develop consistent cross-marketing opportunities with four partners and focus on the top three Library services.	FY2024
	Raise profile by presenting at community events (city council meetings, local community service organizations, etc.) four times annually and connecting with one community group per month.	FY2024
Support digital equity.	Amplify effort by partnering with IT professionals from four organizations in the community to provide one-on-one digital training.	FY2025

Act as City and County information hub.

Leverage library reputation for warmth and friendliness by posting on social media with info about government services and requirements each month.

Position library as center for community improvement activities by sharing community improvement project info quarterly through social media and newsletter postings.

Throughout the planning period
(FY2023-2028)

Throughout the planning period
(FY2023-2028)

Offer services beyond library walls.

Increase impact by taking reading programs out into the community. Partner with one educational institution per year in order to promote reading in a meaningful and measurable way.

Throughout the planning period
(FY2023-2028)

Embrace diverse cultures.

Expand multicultural marketing efforts by researching most effective channels for specific communities. Select one channel and execute one campaign annually.

Improve offerings to Spanish speakers by reviewing Spanish language physical collection performance annually.

Unite and inspire the community by hosting one large event each year.

Throughout the planning period
(FY2023-2028)

Throughout the planning period
(FY2023-2028)

Throughout the planning period
(FY2023-2028)

TRADITIONAL AND EMERGING SERVICES



Goal Statement:

Siouxland Libraries provide experiences that surprise and delight and are the center for lifelong learning in Sioux Falls and Minnehaha County.

STRATEGY	OBJECTIVE	TIMELINE
Support economic development.	Determine local business needs by conducting one survey. Design two services to enhance new-to-the-community employees.	Q1 FY2024
Encourage reading.	Provide personalized reading suggestion lists by request on the website by rebranding the Book Butler program. Increase participation by 50%. Increase access by focusing collection development to meet specific community needs (bestsellers, eBooks) and shorten wait times by 5%. Provide Student Cards via partnership with Sioux Falls School District and Minnehaha County School Districts (Baltic, Brandon Valley, Garretson, Tri-Valley and West Central) to increase access to library services. Promote program to 100% of Sioux Falls School District's elementary students and 25% of middle and high school students. Develop partnerships with the Minnehaha County School Districts and other private schools in Sioux Falls. Celebrate reading throughout the year by hosting one spring reading challenge starting in FY2023. Establish a baseline of participation and increase 5% each year. Support literacy by increasing Summer Reading participation by 5% each year.	FY2023 Q4 FY2024 FY2023-2025 Throughout the planning period (FY2023-2028) Throughout the planning period (FY2023-2028)
Support early literacy and education.	Engage parents by focusing efforts on three large parent education programs each year. Establish baseline of participation in 2023, increase participation by 5% each year. Focus efforts on preparing children for kindergarten. Leverage 1000 books before Kindergarten. Increase participants by 5 percent each year of plan.	Throughout the planning period (FY2023-2028) Throughout the planning period (FY2023-2028)

Introduce innovative services.

Provide life skills programs by investigating partnerships and/or offering one series each quarter in areas such as financial literacy, sewing and mending, affordable living (coupons, etc).

Create a greater depth of virtual offerings by exploring three service options annually and implementing as possible.

FY2023

Throughout the planning period
(FY2023-2028)

Raise awareness.

Understand the impact of library fines on patrons and result of removing library fines on collection access by performing cost/benefit analysis. Use data to explore becoming a fine free library system.

Reach users and nonusers with information about services by leveraging analytical data and strategic marketing channels. Identify three patron segmentation groups and launch a communication campaign.

Q2 FY2023

FY2023

Provide access to new and existing technology.

Increase adult engagement by investigating a once-a-month series of author visits and speakers with focus on specific topics and consistent day/time. Could be ticketed and fundraiser or sponsored. Include virtual/ongoing option.

Support technology adoption by providing one-on-one instruction at least four days per month, including help on how to download and stream content to personal devices.

Increase convenience for patrons by providing 30% of programs during the evening or weekends for working families and single adults.

FY2024

FY2025

Throughout the planning period
(FY2023-2028)

FLEXIBLE SPACES



Goal Statement:

Siouxland Libraries are dynamic, flexible welcoming spaces for people to gather, learn, connect and have fun.

STRATEGY	OBJECTIVE	TIMELINE
Encourage residents to gather and connect.	Provide a branded, system-wide Memory Lab service by leveraging current scanning equipment to digitize print photos at three locations. Consider adding additional equipment.	FY2023-2025
	Provide space for multigenerational gathering by finding opportunities to partner with City Parks and Recreation four times per year.	FY2026
	Create more space for people to gather, access information and technology in all locations by evaluating and finding opportunities to refresh one branch per year.	Throughout the planning period (FY2023-2028)
Optimize access in rural areas.	Provide more effective service delivery for low-use branches by evaluating three options including pop-up, mobile, or locker services.	FY2024
	Identify three options for a larger, multi-use facility in Hartford by partnering with the local government.	FY2025
Modify Downtown location.	Create more efficiency by redesigning the staff area for increased storage and public space.	FY2025
	Offer a high quality coffee bar with snacks by releasing an RFP for private operation with contractual obligations for hours of operation and products.	FY2025
Modify Prairie West and Oak View branches.	Support after school programs by monitoring public schools' program development and identifying needs that Libraries could fill.	FY2023 and FY2024
	Increase options for families by exploring offering three afterschool options such as a STEAM area for elementary and middle grades students.	FY2023

Optimize
Mobile Unit.

Leverage efficiency by partnering closely with City Parks and Recreation and County agencies to ensure six visits per year coincide with other public events.

Increase Mobile Unit visibility by continuing to visit six farmers’ markets, holiday and other public events per year.

Determine return on investment by continuing to track hours of service, hours in maintenance/repair and all associated costs.

Throughout the planning period
(FY2023-2028)

Throughout the planning period
(FY2023-2028)

Throughout the planning period
(FY2023-2028)

SUSTAINABILITY



Goal Statement:

Siouxland Libraries will be a good neighbor and community member through sound environmental practices, socially responsible policies and practices with sustainable growth and value to the public. Support City's sustainability efforts.

STRATEGY	OBJECTIVE	TIMELINE
Reduce waste.	Determine whether the current process continues to be the most sustainable by verifying current reuse and recycling of materials that have been withdrawn from the collection. Reduce carbon footprint or wasteful practices by asking staff to notice and implement four ways to improve each year throughout the system.	FY2026 Throughout the planning period (FY2023-2028)
Minimize fuel consumption.	Increase efficiency by collaborating with courier, City vehicles and Bookmobile for planning/scheduling. Evaluate two vehicles/programs per year. Reduce travel distance for patrons by investigating provision of lockers for materials pickup throughout the community. Pickup lockers can be located at parks and recreation sites, fire stations, etc. Continue to encourage walkable/bikeable/short commute communities by offering quality library services at multiple locations throughout the city and county. Educate residents about responsible consumption by offering four focused library programs each year. Provide best possible access to resources for patrons without physically traveling to a library by improving the website. Provide programs in a variety of spaces throughout the service area (parks and recreation spaces, etc.) to increase convenience, shorten travel distance and reach a larger audience.	FY2023 - Bookmobile FY2024 - Courier and Downtown vehicle FY2025 - Rural East and Rural West vehicles FY2025 Throughout the planning period (FY2023-2028) Throughout the planning period (FY2023-2028) Throughout the planning period (FY2023-2028) Throughout the planning period (FY2023-2028)
Optimize staff time.	Reduce staff time spent switching tasks by evaluating staff scheduling and meetings/trainings to determine necessity.	FY2023

Encourage outdoor activities.

Encourage early literacy by creating a permanent story walk in partnership with City Parks and Recreation.

Educate patrons by offering resources for home gardening and three programs on organic gardening, composting, etc. annually.

FY2024

Throughout the planning period
(FY2023-2028)

Reduce public new equipment consumption.

Improve technology access by investigating providing laptops and Wi-Fi hotspots for circulation beyond library buildings. Plan for some loss in annual budget, as would happen for print collection.

Improve access by increasing the Library of Things by five items per year.

FY2023

Throughout the planning period
(FY2023-2028)

APPENDIX I: ENVIRONMENTAL SCAN

Siouxland Libraries serve a dynamic and fast-growing community. From its inception in 1856 on the banks of the Big Sioux River, Sioux Falls has been an important South Dakota community. The history, development and continued population and economic growth of Sioux Falls is intricately related to the river and falls, with major industries continuing to be banking/financial services, agriculture, health care, manufacturing and transportation as well as the service industry.

Siouxland Libraries also serve Minnehaha County. Formed in 1995 and covering 814 square miles, Siouxland Libraries was created by merger of the Sioux Falls Public Library and the Minnehaha County Rural Public Library.

Siouxland Libraries' service area population is 230,819. In 2020, there were 96,842 cardholders, representing approximately 42% of the 89,354 population, which is strong market penetration for a public library.

The City is coming together in the *One Sioux Falls* framework, which guides work for strategic community growth.

ONE SIOUX FALLS FRAMEWORK



The One Sioux Falls framework guides our work for strategic community growth.

Each of the four focus areas are supported by innovation, engaging people, and sustainable growth.

Safety & Health: Provide a safe community in which the health and well-being of our citizens is above the national average.

Accessible Housing: Foster the availability of housing options at all income levels, throughout the city.

Workforce: Continue to develop a community with a quality of life that will attract and retain the best employee base in the United States.

Kids & Families: Support a community where kids and families want to be, and can thrive.

This is supported by innovation, engaging people, and sustainable growth.

Siouxland Libraries are incorporating metro-wide goals for innovative growth into their daily and long term actions as the library leading the way in the community.

Demographics

Minnehaha County's population of 197,214 makes it the most populous county in South Dakota, containing over 20% of the state's population¹. The county seat is Sioux Falls, the largest city in South Dakota. In the Sioux Fall Metropolitan Area, the average household size is 2.46 people. About one-third of all households

¹ US Census American Community Survey. <https://www.census.gov/acs/www/data/data-tables-and-tools/narrative-profiles/2020/report.php?geotype=msa&msa=43620> Accessed 4-6-2022.

(33.5 percent) have one or more children under the age of 18; 23.6 percent of all households have one or more people 65 years and over.

The average median income in Minnehaha County is \$61,772 (compared to South Dakota median \$59,896)² with 8.7% of the population under the poverty level. Sioux Falls has a 2.8% unemployment rate, far lower than the national average of 6.2%.

Household Income in Minnehaha County, South Dakota in 2016-2020

	Percent
Less than \$10,000	4.4
\$10,000 to \$14,999	3.3
\$15,000 to \$24,999	7.8
\$25,000 to \$34,999	9.9
\$35,000 to \$49,999	13.0
\$50,000 to \$74,999	19.5
\$75,000 to \$99,999	15.3
\$100,000 to \$149,999	16.5
\$150,000 to \$199,999	6.1
\$200,000 or more	4.2

Types of Households in Minnehaha County, South Dakota in 2016-2020

	Percent
Married-couple households	46.0
Cohabiting Couples	7.2
Male Householder No spouse/partner present	20.2
Female Householder No spouse/partner present	26.6

² US Census. <https://www.census.gov/quickfacts/fact/table/SD/BZA210219>. Accessed 4-14-2022.

Percent of the Population 5 years and over who Speak a Language other than English in Sioux Falls, SD Metro Area in 2016-2020

	Percent
Spanish	3.0
Other Indo-European languages	2.2
Asian and Pacific Islander languages	0.7
Other languages	2.4

In Minnehaha County, an estimated 93.2 percent of residents are U.S. natives. 62.2 percent of Sioux Falls, SD residents are native South Dakotans with 6.8 percent of Sioux Falls Metropolitan residents born in other countries. An estimated 59.8 percent of these residents entered the United States prior to 2010.³

Digital Access & Technology in Minnehaha County

Types of Computers in Sioux Falls, SD Metro Area in 2016-2020

	Percent
Desktop or laptop	81.2
Smartphone	85.8
Tablet or other portable wireless computer	65.8
Other computer	2.1

Sioux Falls residents have strong access to technology. 94.2 percent of households in Sioux Falls, SD Metro Area had a computer, and 88.8 percent had a broadband internet subscription.⁴

³ US Census American Community Survey. <https://www.census.gov/acs/www/data/data-tables-and-tools/narrative-profiles/2020/report.php?geotype=msa&msa=43620> Accessed 4-20-2022.

⁴ US Census American Community Survey. <https://www.census.gov/acs/www/data/data-tables-and-tools/narrative-profiles/2020/report.php?geotype=msa&msa=43620> Accessed 4-20-2022.

Types of Computers in Minnehaha County, South Dakota in 2016-2020

	Percent
Desktop or laptop	79.9
Smartphone	86.0
Tablet or other portable wireless computer	64.1
Other computer	2.1

Education

Sioux Falls has a significant number of high-school educated residents. Of those 25 years and over, 93.5 percent had at least graduated from high school and 33.9 percent had a bachelor's degree or higher. An estimated 6.5 percent did not complete high school.

The total school enrollment in Sioux Falls, SD Metro Area was 64,966. Sioux Falls children's nursery school enrollment was 4,859 and Kindergarten through 12th grade enrollment was 46,936. Students college or graduate school enrollment numbered 13,171.⁵

Educational Attainment of People in Sioux Falls, SD Metro Area in 2016-2020

	Percent
Less than high school diploma	6.5
High school diploma or equivalency	26.5
Some college, no degree	20.3
Associate's degree	12.8
Bachelor's degree	23.4
Graduate or professional degree	10.5

⁵ US Census American Community Survey. <https://www.census.gov/acs/www/data/data-tables-and-tools/narrative-profiles/2020/report.php?geotype=msa&msa=43620> Accessed 4-20-2022.

APPENDIX III: PATRON SEGMENTATION BY CONSUMER GROUP

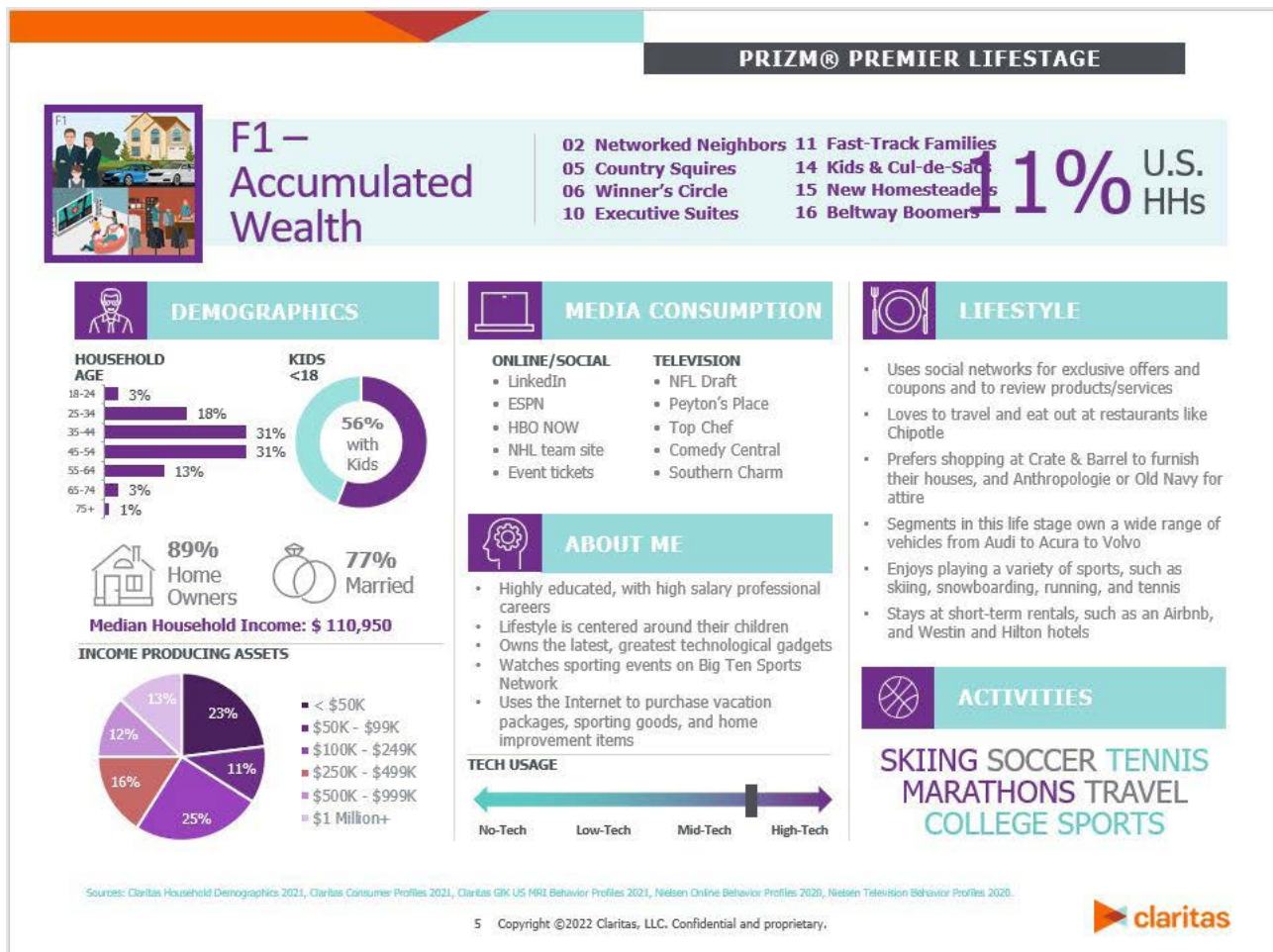
Data from the LibraryIQ analytics platform provides insight into Siouxland Libraries patron needs and interests. The chart below includes information about Siouxland Libraries patrons who checked out physical materials during 2021. Anonymized patron information was mapped to Claritas® consumer information to provide deep understanding of patron needs and interests by household. This data will assist Siouxland Libraries in allocating budget for resources, services and collection development. A deep understanding of demographics, lifestyle and behaviors can be used to create effective marketing strategies, engagement efforts, programs and outreach.

Key Takeaways

Segment Name	Household Income	Household Technology	Household Age Range	% of Total Siouxland Households	% of Total Siouxland Households That Are Library Patrons	% of Total Library Print Checkouts
Accumulated Wealth	Upscale	Average to High	35-55	19.41%	24.33%	34.44%
Cautious Couples	Lower Midscale	Low	65+	13.89%	10.80%	10.06%
Conservative Classics	Upscale	Low to Average	55+	7.76%	8.34%	9.49%
Affluent Empty Nests	Upscale	Average	55+	7.62%	8.60%	9.26%
Young Accumulators	Upper Midscale	Average	Age <55	8.05%	8.92%	9.01%
Young Achievers	Lower Income	Average to High	Age <55	17.07%	15.52%	9.97%
Mainstream Families	Upper Midscale	Low to Average	25-50	6.90%	6.69%	5.79%
Midlife Success	Lower Midscale	Low	65+	4.22%	4.28%	4.53%
Striving Singles	Lower Income	Average to High	Age <55	9.65%	8.10%	4.06%
Sustaining Seniors	Downscale	Low	55+	3.95%	3.15%	2.71%
Sustaining Families	Lower Income	Average	Age <55	1.47%	1.26%	0.69%

Accumulated Wealth

- Highest volume of print materials checkouts
- Suburban environment with emphasis on families with children
- Educated parents with high-salary professional careers
- Above average use of technology, great for STEAM related programs and activities



Cautious Couples

- Interest is in DIY, tools and the home
- Prefer to stay in local setting over venturing out
- Retirement phase: lean more toward comfort and casual areas
- Lower-tech; reads the newspaper and favorite genres (crafting, current affairs, cooking)

PRIZM® PREMIER LIFESTAGE



M3 – Cautious Couples

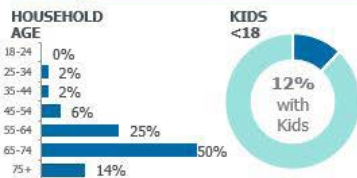
32 Traditional Times
36 Toolbelt Traditionalists
38 Hometown Retired
41 Domestic Duos
43 City Roots

46 Heartlanders
49 American Classics
52 Simple Pleasures
53 Lo-Tech Singles

13% U.S. HHs



DEMOGRAPHICS



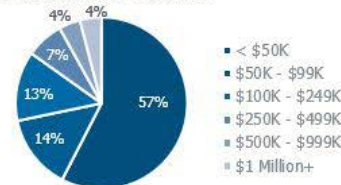
82% Home Owners



53% Married

Median Household Income: \$ 38,795

INCOME PRODUCING ASSETS



MEDIA CONSUMPTION

ONLINE/SOCIAL

- AARP
- Facebook
- Email
- Shopping sites

TELEVISION

- INSP
- Dolly Parton: 50 Year at the Opry
- NASCAR races
- Bonanza
- Walker, Texas Ranger



ABOUT ME

- Typically beginning their empty-nest years
- Maintains easy-going and predictable lifestyles
- Enjoys reading and eating out at restaurants with good values
- Listens to classic country or soft adult contemporary music
- Reads the local newspaper as well as fraternal magazine

TECH USAGE



LIFESTYLE

- Likely to choose a night out over relying on technology to entertain them
- Prefers dining at restaurants like Cracker Barrel or Golden Corral
- Shopping excursions usually include Stein Mart, JC Penney, and Big Lots
- Owns domestic brand vehicles such as Buick, Chevrolet, or Lincoln
- Does not travel often, but when vacationing enjoys going on guided tours and visiting casinos



ACTIVITIES

GOLF FIGURE SKATING
FORMER MILITARY
NASCAR RETIREMENT

Sources: Claritas Household Demographics 2021, Claritas Consumer Profiles 2021, Claritas GRK US MRI Behavior Profiles 2021, Nielsen Online Behavior Profiles 2020, Nielsen Television Behavior Profiles 2020.

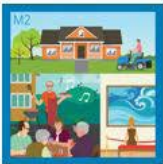
11 Copyright ©2022 Claritas, LLC. Confidential and proprietary.



Conservative Classics

- Partakes in outdoor leisure activities (boating, golf)
- Interest in local events and cultural opportunities
- Typically not up-to-date on latest technology
- Watches live TV and listens to talk/personality radio

PRIZM® PREMIER LIFESTAGE

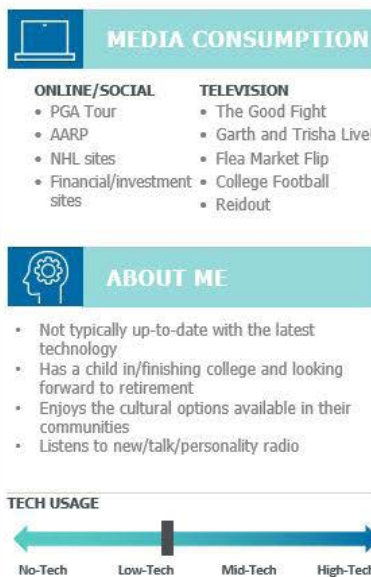
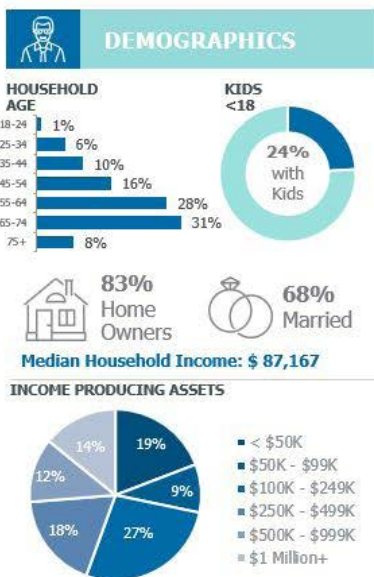


M2 – Conservative Classics

17 Urban Elders
18 Mayberry-ville
19 American Dreams
20 Empty Nests

22 Middleburg Managers
24 Pickup Patriarchs
28 Country Casuals

11% U.S.
HHs



Sources: Claritas Household Demographics 2021, Claritas Consumer Profiles 2021, Claritas GIK US MRI Behavior Profiles 2021, Nielsen Online Behavior Profiles 2020, Nielsen Television Behavior Profiles 2020.

10 Copyright ©2022 Claritas, LLC. Confidential and proprietary.



Affluent Empty Nest

- Well-educated group with high literacy levels
- Enjoys taking vacations and traveling
- Engaged in community and current events
- Maintains lawn, garden and home's interior style and curb appeal

PRIZM® PREMIER LIFESTAGE



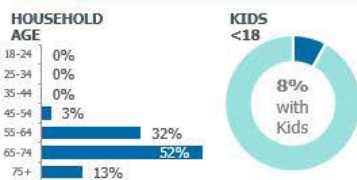
M1 – Affluent Empty Nest

01 Upper Crust
03 Movers & Shakers
07 Money & Brains

08 Gray Power
09 Big Fish, Small Pond
12 Cruisin' to Retirement

9% U.S. HHs

DEMOGRAPHICS



95% Home Owners
77% Married

Median Household Income: \$ 137,551

INCOME PRODUCING ASSETS



MEDIA CONSUMPTION

ONLINE/SOCIAL

- PGA Tour
- News/current events
- Finance sites
- Online travel sites

TELEVISION

- Political debates
- CNN Films
- Reidout
- PGA Tour events
- The Good Fight



ABOUT ME

- Lives in the richest addresses in the nation
- Highly educated executives and white-collar professionals that are nearing retirement, if not already retired
- Spends their free time vacationing
- Community leaders who donate to public radio, volunteer for environmental groups, and vote regularly in elections

TECH USAGE



LIFESTYLE

- Eats at Bonefish Grill, Carrabba's, or any upscale restaurant
- Reads The New York Times
- Shops at Bloomingdale's, Stein Mart, and Nordstrom
- Owns Mercedes-Benz, Lexus, or Audi
- Lives in fashionable home with well-manicured lawn
- Online behavior centers around their financial investments and keeping up with current events

ACTIVITIES

GOLF SYMPHONY TENNIS
CHILD IN COLLEGE LIVE
THEATER TRAVEL

Sources: Claritas Household Demographics 2021, Claritas Consumer Profiles 2021, Claritas GIK US PRIZM Behavior Profiles 2010, Nielsen Online Behavior Profiles 2020, Nielsen Television Behavior Profiles 2020.

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Young Accumulators

- Lives in mid-size homes w/interest in home improvement/projects
- Mix of professional and managerial jobs
- Strong inclination to use the Internet for shopping and researching products, reads book reviews
- Enjoy outdoor activities (hunting, fishing, baseball) and owns bounty of sports equipment

PRIZM® PREMIER LIFESTAGE



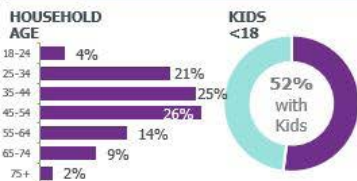
F2 – Young Accumulators

23 Township Travelers 29 White Picket Fences
26 Home Sweet Home 30 Pools & Patios
27 Big Sky Families

8% U.S. HHs



DEMOGRAPHICS



78%
Home Owners



68%
Married

Median Household Income: \$ 78,927

INCOME PRODUCING ASSETS



MEDIA CONSUMPTION

ONLINE/SOCIAL

- Sling TV
- YouTube
- Pinterest
- NASCAR
- RetailMeNot

TELEVISION

- Nick Jr.
- Street Outlaws: Fastest
- Disney Channel
- NFL Network
- Comedy Central



ABOUT ME

- Lives in mid-sized homes and stays busy remodeling and making improvements
- Listens to SEC sports and country radio
- Frequently attends high school sports events
- Adults typically have college educations and work a mix of white-collar managerial and professional jobs

TECH USAGE



LIFESTYLE

- Researches products online and spends over \$2,500 online a year
- Eats at Zaxby's, Sonic, and Hardee's
- Shops at Academy Sports + Outdoors, Sam's Club, and Bass Pro Shops
- Owns RAM vehicles, but also favor GMC and Dodge
- Enjoys outdoor activities such as hunting and owns lots of sporting equipment



ACTIVITIES

**BASEBALL HUNTING
MONSTER JAM PET
OWNER FISHING**

Sources: Claritas Household Demographics 2021, Claritas Consumer Profiles 2021, Claritas GRK US PRQ Behavior Profiles 2021, Nielsen Online Behavior Profiles 2020, Nielsen Television Behavior Profiles 2020.

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Young Achievers

- Ethnically diverse group
- Heavily engaged with technology (streaming, online shopping) and different social media platforms (Youtube, Instagram, etc.)
- Interested in going back-to-school or moving
- Prefer experiences (hiking, travel, theme parks, dining out) over materials

PRIZM® PREMIER LIFESTAGE

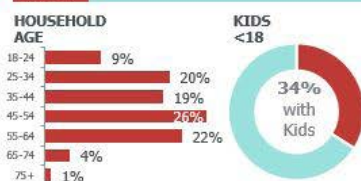


Y2 – Young Achievers

40 Aspiring A-Listers 50 Metro Grads
47 Striving Selfies 54 Struggling Single
48 Generation Web

7% U.S. HHs

DEMOGRAPHICS



Median Household Income: \$ 24,813

INCOME PRODUCING ASSETS



MEDIA CONSUMPTION

ONLINE/SOCIAL

- YouTube
- Hulu
- Snapchat
- CareerBuilder
- Monster.com

TELEVISION

- Basketball Wives
- Love & Hip Hop Atlanta
- Video Music Awards
- Black Ink Crew
- BET Awards

ABOUT ME

- Enjoys sporting events, such as WWE, Mexican league soccer, and Monster Jam
- Looking for a new job, and often attends job and recruitment fairs
- Heavy focus on maintaining their social lives
- Interested in moving or going back to school in the next year
- Ethnically diverse

TECH USAGE



LIFESTYLE

- Spends 10+ hours a week streaming video online
- Spends heavily on name brand materials and dining out, but eats at fast food restaurants frequently
- Shops at Burlington, Ross Dress for Less, and Family Dollar
- Owns vehicles made by Nissan and Hyundai
- Planning vacations centering on hiking, spa activities, and theme parks
- Listens to Mexican Regional, Spanish Tropical, and Spanish Adult Hits

ACTIVITIES

WWE BACK TO SCHOOL
MONSTER TRUCKS
ESPORTS JOB FAIRS

Sources: Claritas Household Demographics 2021, Claritas Consumer Profiles 2021, Claritas GRK MRI Behavior Profiles 2021, Nielsen Online Behavior Profiles 2020, Nielsen Television Behavior Profiles 2020.

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Mainstream Families

- Partakes in outdoor-related vacations
- Heavy focus on children and family-friendly activities
- Emphasis on maintaining active family lifestyle, promote sports and love of the outdoors
- Interested in social networking and online gaming

PRIZM® PREMIER LIFESTAGE



F3 – Mainstream Families

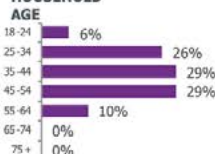
33 Second City Startups 44 Country Strong
37 Bright Lights, Lil City 51 Campers & Camo
39 Kid Country, USA

9% U.S.
HHs

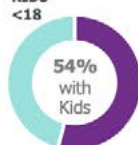


DEMOGRAPHICS

HOUSEHOLD AGE



KIDS <18



70%
Home
Owners



50%
Married

Median Household Income: \$ 64,991

INCOME PRODUCING ASSETS



MEDIA CONSUMPTION

ONLINE/SOCIAL

- Snapchat
- Crunchyroll
- Reddit
- UFC
- Monster.com

TELEVISION

- Ax Men
- Street Outlaws: Fastest
- WWE Smackdown
- Disney Channel
- The Substitute



ABOUT ME

- Looks for deals when shopping online or in-person
- Raises their families in small-town settings
- Plans to get married or have child in next year
- Maintain lifestyles befitting large families and buy groceries in bulk
- Listens to high school sports and Active Rock on the radio

TECH USAGE



LIFESTYLE

- Uses social networks to play games but despite their age, they are somewhat low in their tech use
- Eats at fast food chains like Zaxby's, Hardee's, and Dairy Queen
- Shops primarily at Academy Sports + Outdoors, GameStop, and Dollar General
- Typically owns a Dodge, GMC, or Chevrolet
- Travels to theme parks and enjoys both mountain and adventure vacations



ACTIVITIES

**MONSTER JAM FISHING
HUNTING PET OWNER
BACK TO SCHOOL**

Sources: Claritas Household Demographics 2021, Claritas Consumer Profiles 2021, Claritas GfK US PRQ Behavior Profiles 2021, Nielsen Online Behavior Profiles 2020, Nielsen Television Behavior Profiles 2020.

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Midlife Success

- Children-oriented families require wide selection of children's material
- Interested in travel and outdoor activities/sports
- Engaged in technology and its many offerings
- Interest in adult fiction and nonfiction

PRIZM® PREMIER LIFESTAGE



Y1 – Midlife Success

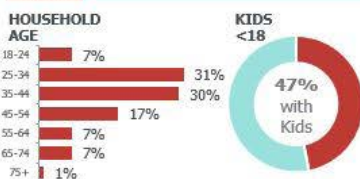
04 Young Digerati
13 Upward Bound
21 The Cosmopolitans
25 Up-and-Comers

31 Connected Bohemians
34 Young and Influential
35 Urban Achievers

9% U.S. HHs



DEMOGRAPHICS



59% Home Owners



55% Married

Median Household Income: \$ 73,911

INCOME PRODUCING ASSETS



MEDIA CONSUMPTION

ONLINE/SOCIAL

- Yelp
- HBO Now
- Meetup.com
- NBA League Pass
- LinkedIn

TELEVISION

- US Open Tennis
- Video Music Awards
- Southern Charm
- Top Chef
- Shaws of Sunset



ABOUT ME

- Researches travel plans online
- Likely to move or change address in next year
- Streams music via Spotify, Stitcher, and TuneIn
- Listens to Alternative music, as well as Rhythmic Adult Contemporary and Spanish Contemporary

TECH USAGE



LIFESTYLE

- Eats at Chipotle, California Pizza Kitchen and organic/health food restaurants
- Shops online and in-store at men's and women's retailers, like Bloomingdale's, Nordstrom and Crate & Barrel
- Owns luxury vehicles like an Audi, BMW, or Acura
- Participates in skiing and snowboarding, while also enjoying tennis and yoga
- Enjoys traveling extensively to locations such as Los Angeles, New York City, and Europe



ACTIVITIES

TRAVEL ORGANIC FOOD
YOGA NBA SKIING
TENNIS MARATHONS

Sources: Claritas Household Demographics 2021, Claritas Consumer Profiles 2021, Claritas GIK US PR3 Behavior Profiles 2021, Nielsen Online Behavior Profiles 2020, Nielsen Television Behavior Profiles 2020.

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Striving Singles

- High percentage of households that check out print materials
- Actively use social media and on the hunt to find a new job and/or go back to school
- Interest in fiction, mysteries, thrillers, YA and graphic novels
- More focused on print material over ematerial

PRIZM® PREMIER LIFESTAGE



Y3 – Striving Singles

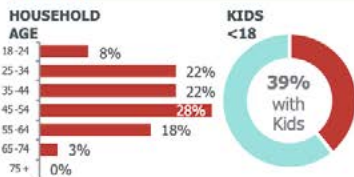
55 Red, White & Blue
59 New Melting Pot
60 Small-Town Collegiates
63 Low-Rise Living

64 Family Thrifts
65 Young & Rustic
66 New Beginnings

10% U.S. HHs



DEMOGRAPHICS



20% Home Owners



25% Married

Median Household Income: \$ 21,870

INCOME PRODUCING ASSETS



MEDIA CONSUMPTION

ONLINE/SOCIAL

- YouTube
- CareerBuilder
- Facebook
- WWE.com
- Coupons.com

TELEVISION

- The New Edition Story
- Love & Hip Hop Atlanta
- Basketball Wives
- BET
- Black Ink Crew



ABOUT ME

- Works entry-level service jobs and uses CareerBuilder.com to search for new jobs
- Relies on public transportation
- Enjoys Monster Jam, NBA Gatorade League, and WWE
- Listens to Gospel and Urban Contemporary
- Stays at budget motels like Super 8 or Motel 6

TECH USAGE



LIFESTYLE

- Spends over 25 hours a week on social networking sites
- Eats at low budget fast food restaurants, like Hardee's, Church's Chicken, and Chuck E Cheese
- Prefers shopping at Family Dollar, GameStop, and Burlington
- Typically owns a Dodge, Buick, or GMC
- Does not travel often, but when they do, they stay at economically-sound motels like Motel 6



ACTIVITIES

**WEDDING PLANNING
MONSTER TRUCKS BACK
TO SCHOOL ESPORTS**

Sources: Claritas Household Demographics 2021, Claritas Consumer Profiles 2021, Claritas GFK US PRQ Behavior Profiles 2021, Nielsen Online Behavior Profiles 2020, Nielsen Television Behavior Profiles 2020.

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Sustaining Seniors

- Very low Internet and tech usage
- Lives a peaceful, classic small-town life with love of all things local
- Retired and rarely travels due to leaner lifestyle
- Social life revolves around veteran's clubs, fraternal organizations and other local groups

PRIZM® PREMIER LIFESTAGE

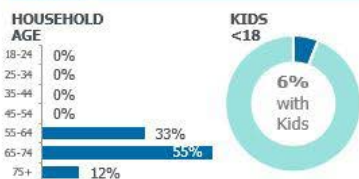


M4 – Sustaining Seniors

57 Back Country Folks
58 Golden Ponds
62 Crossroad Villagers
67 Park Bench Seniors

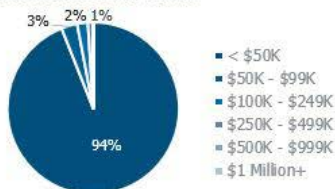
7% U.S. HHs

DEMOGRAPHICS



Median Household Income: \$ 22,835

INCOME PRODUCING ASSETS



MEDIA CONSUMPTION

- ONLINE/SOCIAL**
- Little to no Internet usage
 - Facebook
 - AARP
 - Email
- TELEVISION**
- INSP
 - Branded 1
 - Gunsmoke
 - Bonanza
 - The Weather Channel

ABOUT ME

- Lives a classic, small-town lifestyle
- High school educated with downscale incomes
- Social life often revolves around activities at veterans' clubs and fraternal organizations
- Daily life consists of sedentary activities, like reading, watching TV and crafting
- Listens to gospel and classic country

TECH USAGE



LIFESTYLE

- Internet usage is very low, but when they do browse, it is focused on health-related websites and crafting inspiration
- Often eats at restaurants where you can get a lot of food for a good price, like Hardee's or Golden Corral
- Does not shop often, but when they do it is often at stores such as Dollar General
- Tends to own a Buick, GMC, or Chevrolet
- Due to a low income, these seniors rarely travel

ACTIVITIES

NASCAR BULL RIDING
FIGURE SKATING
RETIREMENT SEWING
FORMER MILITARY

Sources: Claritas Household Demographics 2021, Claritas Consumer Profiles 2021, Claritas GIK US PR3 Behavior Profiles 2021, Nielsen Online Behavior Profiles 2020, Nielsen Television Behavior Profiles 2020.

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Sustaining Families

- Segment with the lowest number of library checkouts and least amount of households in Siouxland service area
- Group lives in multi-generation households
- Uses job-seeking websites and weighs back to school possibilities
- Opportunities for outreach to this group as well as evaluation of current targeted services

PRIZM® PREMIER LIFESTAGE

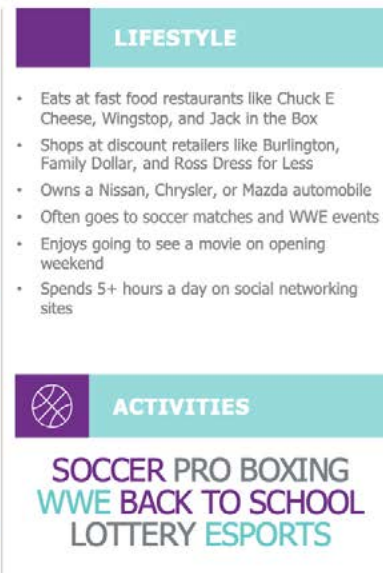
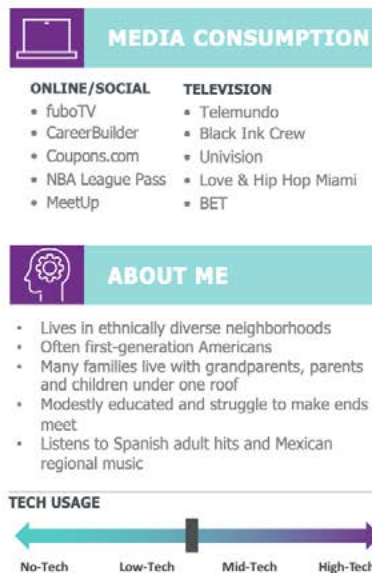
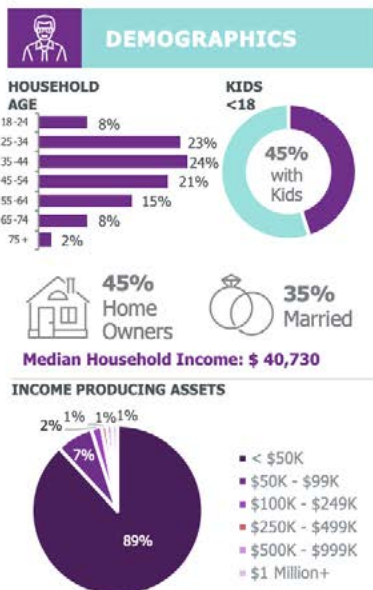


F4 – Sustaining Families

42 Multi-Culti Mosaic
45 Urban Modern Mix
56 Multi-Culti Families

61 Second City Generations
68 Bedrock America

7% U.S. HHs



Sources: Claritas Household Demographics 2021, Claritas Consumer Profiles 2021, Claritas GFK US PRG Behavior Profiles 2021, Nielsen Online Behavior Profiles 2020, Nielsen Television Behavior Profiles 2020.

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LIBRARY STRATEGIES

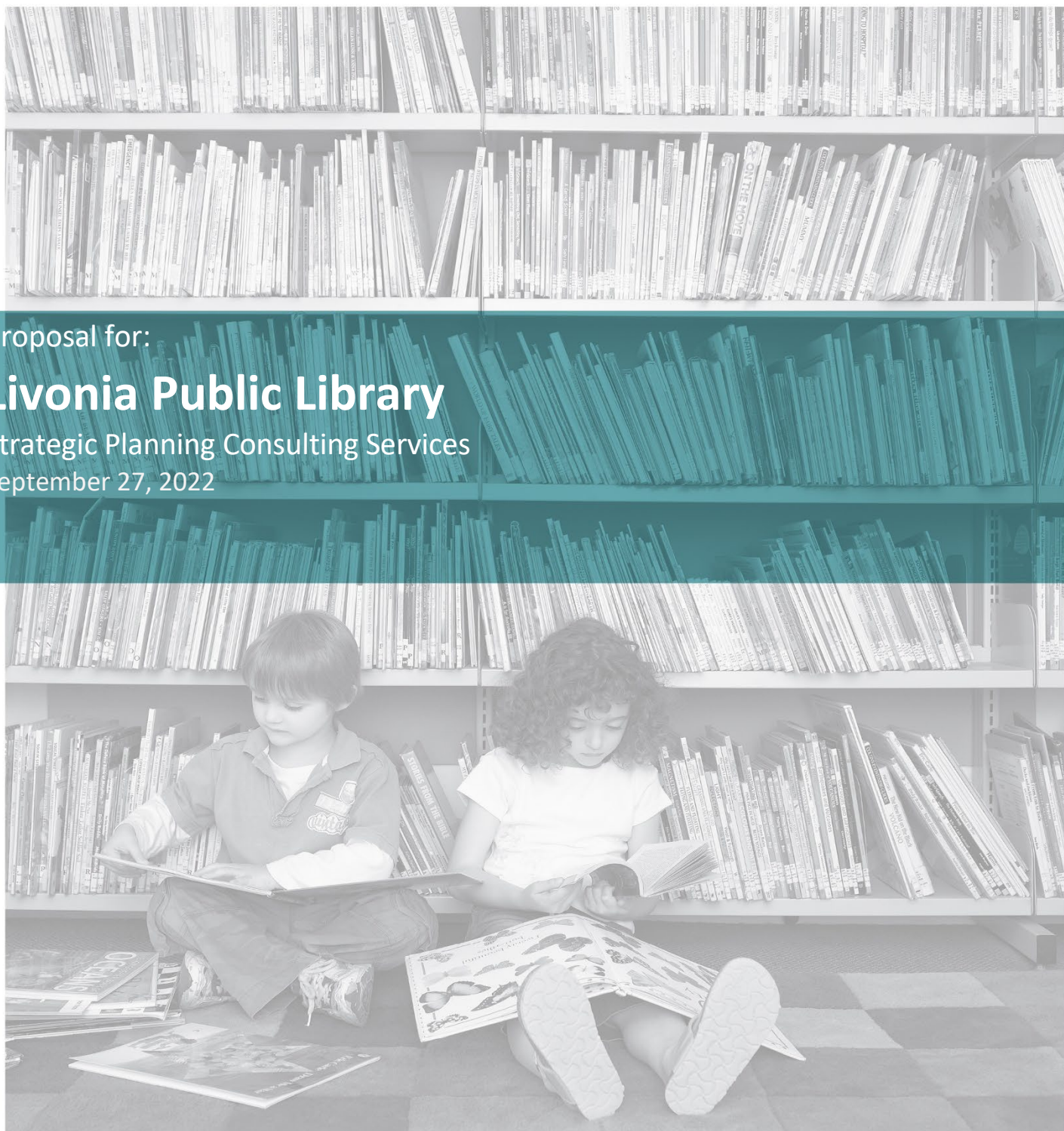


Proposal for:

Livonia Public Library

Strategic Planning Consulting Services

September 27, 2022



LETTER OF INTRODUCTION

Enna Bachelor
City of Livonia, Michigan
33000 Civic Center Drive
Livonia, Michigan 48154

Ms. Bachelor,

Library Strategies is pleased to submit the following proposal to facilitate Livonia Public Library's strategic planning process.

As demonstrated by this proposal, Library Strategies offers unique insights and specialization to support the Livonia Public Library for its strategic planning goals. Our team includes distinguished members of the library community, ready to apply their knowledge and experience to guiding the staff, board, and township and other stakeholders in developing an actionable strategic plan for the Library.

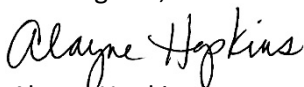
Library Strategies Consulting Group
1080 Montreal Avenue, Suite 2
Saint Paul, MN 55116

Primary Contact & Authorized Agent:

Alayne Hopkins
Director of Programs & Services
(651) 366-6488
(651) 222-1988 fax
alayne@thefriends.org

We look forward to the opportunity to work with the City of Livonia and the Livonia Public Library team and stakeholders. Thank you for your consideration of our attached proposal.

Best regards,


Alayne Hopkins

EXECUTIVE SUMMARY

Livonia Public Library (LPL) is a valued public resource for city residents, with robust programming and a history of responsiveness to the needs of the community. As the Library looks ahead to strategic planning, there is a strong interest to incorporate the diverse and varied voices of the



Livonia community: Library users, non-users, and stakeholders including board, Friends and staff. This intentionally inclusive approach will strengthen the Library's position as an integral resource that provides meaningful services reflective of the needs of its service area.

The past three years have seen much change for libraries and communities around the country, and in Livonia, as well. The combined desire to ensure LPL's services are meeting the needs of all City residents, answer questions surrounding the best use of facilities, including the fate of the Alfred Noble Branch, as well as look to what partnerships, technologies, and messaging will position the Library for the future, means now is an opportune time for the Livonia Public Library to establish a comprehensive strategic plan. As outlined in our proposed Methodology, Library Strategies utilizes a number of unique tools to engage and incorporate inputs from a wide range of internal and external stakeholders. This multi-pronged approach allows us to articulate a vision and goals for LPL that will complement and support your mission and values.

We propose a broad-based and rigorous strategic planning process that effectively incorporates multiple community input opportunities with a scope to include facilities, services, collections, programs, and operations. Community engagement activities include surveys, one-on-one interviews, focus groups and/or a community retreat, designed to hear and incorporate the diverse voices and visions of the community. At the conclusion of the strategic planning process, we believe the resulting strategic plan can set the Library on course to continue its responsiveness to varied community interests, and build a dynamic future for the Library and community.

Library Strategies believes that our team is well matched to partner with Livonia Public Library stakeholders on the design of the Library's next strategic plan. Library Strategies is mission-driven in our work to provide unique services that facilitate libraries and library support organizations to strengthen their position and effectiveness in their communities.

ABOUT US: QUALIFICATIONS & EXPERIENCE

Library Strategies is a consulting group of The Friends of the Saint Paul Public Library – the foundation of the Saint Paul (Minnesota) Public Library system. We are the *only* consulting group in the country based *inside of* a library support organization. Moreover, our consultants are leaders in the national library community, and outstanding professionals in allied fields, who each offer decades of expertise and a wide range of practical skills.



We offer a unique set of services designed specifically to strengthen libraries and their communities. These services include:

- Strategic Planning (using our Rapid Results Planning™ model)
- Facilities and Space Planning
- Feasibility Studies + Capital Campaign Counsel
- Staff Planning
- Friends and Foundation Assessments/Plans
- Library Operations Audits
- Fundraising and Advocacy Training
- Board and Staff Leadership Training

The Friends of the Saint Paul Public Library formally established Library Strategies in 2006, to provide insights and hands-on assistance *solely* to libraries and library support institutions. Our teams have partnered with organizations in 34 states, Eastern Europe, and the Middle East. Clients range from small libraries in rural Tennessee and Wisconsin, to national bodies like the American Library Association (ALA) and Council of State Library Agencies (COSLA), to public libraries in places as far afield as Romania and Saudi Arabia.

We pride ourselves on innovation. In recent years, Library Strategies developed a comprehensive “capacity building” training program for small and rural libraries in Wisconsin, Minnesota, and North Dakota. We’ve also designed a replicable, scalable “train-the-trainer” program built upon our Rapid Results Planning™ process, which has been rolled out to library directors throughout Georgia, South Carolina and southeast Florida. Our team also proudly designed, structured, and implemented an exciting and first-of-its-kind children’s “One Read” program for the State of Minnesota. In 2013, Library Strategies

published, *Beyond Book Sales: A Comprehensive Guide to Library Fundraising* (American Library Association Press).

Our Mission and Values

Libraries are vital centers for community connection, collaboration, and inspiration. But libraries must continually hone their skills and adapt to a changing society to thrive. Library Strategies exists to cultivate your potential – so that you can better serve and strengthen your community over the long haul.

We strengthen communities, one library at a time.

- **We believe in libraries. We get libraries.** We're a nonprofit housed within a library foundation. We understand library missions because they are *our* mission. We also understand the challenges libraries and library organizations face. We bring this passion and library-focused knowledge and experience, and tailor it to achieve your goals.
- **We help you serve your community by *engaging your community*.** We enlist individuals representing a wide swathe of your community, to get to know their aspirations and help them understand (and you to articulate) how libraries can help people achieve those goals.
- **We bring a “comprehensive perspective” to your project.** Whether you're looking for fundraising, marketing, strategic planning, advocacy, or other guidance, we approach your project in the whole context of you: your current capacity, your future goals, and your desired influence on your community.
- **We turn big ideas into practical insights that help you create meaningful change.** We lead national conversations about the future of libraries, but more importantly, we've developed unique tools and action plans that equip your organization for tomorrow.
- **We are your ally.** We connect with your key stakeholders to engage them in the process, help them adapt to change, and empower them to be advocates for your plan, so that the results are meaningful and sustainable after we leave.

In short, we are passionate about helping clients deliver on their missions and achieve their visions for increased community impact. You will find our team smart, experienced, creative, passionate, and dedicated to libraries.

Library Strategies' Commitment to Diversity, Equity, and Inclusion

Library Strategies, as part of The Friends of the Saint Paul Public Library, is committed to embracing diversity, becoming more inclusive, and producing more equitable outcomes through our work. We have immersed ourselves in ongoing learning and sharing activities related to building our team and individual strengths for diversity, equity, and inclusion. For example, we have partnered with consultants to conduct a thorough audit of our organizational practices and create an action plan for growth. Our teams have been participating in all-staff training sessions with DEI professionals, journal club style discussions, and creating space for one-on-one and small group discussions. Our goals include continuous attention to, and growth towards, being an equitable and inclusive organization, and incorporating organizational and individual values for diversity, equity, and inclusion into our day-to-day work with each other, our partners, and our clients.



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

09/27/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

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PRODUCER DOLLIFF INSURANCE 6465 Wayzata Blvd. Ste. 850 Saint Louis Park MN 55426-1749	CONTACT NAME: Jody Virnig PHONE (A/C, No, Ext): (952) 593-7400 E-MAIL ADDRESS: jvirnig@dolliff.com FAX (A/C, No): (952) 593-7444
INSURED The Friends of the Saint Paul Public Library dba: Library Strageries Consulting Group & The Minnesota Center of the Book 1080 Montreal Avenue Suite 2 Saint Paul MN 55116	INSURER(S) AFFORDING COVERAGE INSURER A: Citizens Insurance Company of America INSURER B: Federal Insurance Company INSURER C: INSURER D: INSURER E: INSURER F:

COVERAGES**CERTIFICATE NUMBER:** CL2292717347**REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☒ POLICY ☐ PRO-JECT ☐ LOC OTHER:			OBXD624281	03/02/2022	03/02/2023	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000
A	AUTOMOBILE LIABILITY ☐ ANY AUTO ☐ OWNED AUTOS ONLY ☒ HIRED AUTOS ONLY ☐ SCHEDULED AUTOS ☒ NON-OWNED AUTOS ONLY			OBXD624281	03/02/2022	03/02/2023	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
A	☒ UMBRELLA LIAB ☐ EXCESS LIAB DED ☒ RETENTION \$ 5,000			OBXD624281	03/02/2022	03/02/2023	EACH OCCURRENCE \$ 10,000,000 AGGREGATE \$ 10,000,000
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y / N ☐	N / A	WBX8966525	03/02/2022	03/02/2023	☒ PER STATUTE E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
B	Professional Liability (Claims Made)			82558738	03/02/2022	03/02/2023	\$2,000,000 Aggregate

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER**CANCELLATION**

Livonia Public Library 32777 Five Mile Rd Livonia MI 48154	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE
--	---

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FORM OF PROPOSAL **LIBRARY STRATEGIC PLAN**

Bid of Library Strategies, a consulting group of The Friends of the Saint Paul Public Library, hereinafter called Bidder, organized and existing under the laws of or a resident of the State of Michigan, doing business

as a corporation*.

* Insert as applicable: "a corporation", "a partnership" or "an individual"

TO THE CITY OF LIVONIA, MICHIGAN, hereinafter called OWNER:

The undersigned as Bidder hereby declares: that this Bid is made in good faith without fraud or collusion with any person or persons bidding on the same Contract; that the Bidder has read and examined the Notice to Bidders, Instructions to Bidders, Bid, General Conditions, Supplementary Conditions, Agreement, Forms of Proposal, Bond, Specifications and Drawings, as prepared by the City of Livonia, and understands all of the same; that the Bidder or its representative has made personal investigation at the site and has become fully familiar with regard to the conditions to be met in the execution of this Contract*, and the undersigned proposes to furnish all labor, materials, tools, power, transportation, and construction equipment necessary for the construction of the Project and performing related work in full accordance with the aforesaid Contract Documents, including any and all Addenda officially issued, their receipt of which is hereby acknowledged:

Addendum No.

Addendum Date

The work may be awarded per item.

Item No.	Item Description	Complete for the Sum of:
1	Five-year strategic plan for the City of Livonia Library	\$ 26,100*

FEE SCHEDULE

ROLE	DUTIES PERFORMED	HOURLY RATE
Consultant team	Planning committee meeting and facilities tour, 1.5 days	\$225 per hour/\$1800 day= \$2700
Consultant team	Data collection and review, 1 day	\$225 per hour/\$1800 day= \$1800
Consultant team	Create, post and manage online English-language surveys, 1.5 days	\$225 per hour/\$1800 day= \$2700
Consultant team	Analyze and draft survey summary reports, 1 day	\$225 per hour/\$1800 day= \$1800
Consultant team	Staff SWOC analysis and write-up, 1 day	\$225 per hour/\$1800 day= \$1800
Consultant team	Conduct 6-8 stakeholder interviews (English language), 2 days	\$225 per hour/\$1800 day= \$3,600
Consultant team	Launch community participants invitation process and session preparations, .5 day	\$225 per hour/\$1800 day= \$900
Consultant team	Facilitate RRP™ Retreat or Focus Groups, 3 days	\$225 per hour/\$1800 day= \$5,400
Consultant team	Draft and finalize Strategic Plan, 2.5 days	\$225 per hour/\$1800 day= \$4,500
Consultant team	Dashboard measurement tool, .5 day	\$225 per hour/\$1800 day= \$900
	*this total does not include optional items listed on project budget page	

*This requirement does not seem applicable to the bidding for strategic planning services and while all else in this paragraph applies, Library Strategies has not made personal investigation of the facilities of the Livonia Public Library. Alayne Hopkins, Sr. Director of Programs & Services, 9.27.22

In submitting this sealed bid, it is understood that the City of Livonia reserves the right to reject or accept any or all proposals in whole or in part and waive any irregularities and informalities therein. It is agreed that this bid may not be withdrawn for 120 days from the opening thereof.

Number of days it will take to complete the project upon being given notice to proceed
180 **DAYS**

The contractor and their sub-contractors agree that they will not discriminate against any employee or applicant for employment, to be employed in the performance of this contract with respect to their hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of their sex or age, except when based on a bona fide occupational qualification, or because of their race, color, religion, national origin or ancestry. (Act 453 P.A. 1976 As Amended) The contractor further agrees that they will take affirmative action to insure that applicants are employed and that employees are treated during employment without regard to age, sex, race, creed, color or national origin. Breach of this contract may be regarded as a material breach of contract.

Bidder will identify business entity as individual, or if doing business under assumed name, indicate assumed name, partnership, (naming partners), corporation, foreign or domestic (naming principal officers), and indicate official capacity of person executing proposal and bid.

Date September 27, 2022 Firm Name Library Strategies
(If corporation, partnership, or assumed name)

Address 1080 Montreal Ave., Ste. 2 Signature Alayne Hopkins
(Person executing bid and official capacity)

Print Name Alayne Hopkins

City Saint Paul State MN Zip Code 55116

Email librarystrategiesconsulting@thefriends.org

Phone 651-366-6488 FAX 651-222-1988

Beth Burns, President (The Friends of the Saint Paul Public Library)
(Names of Principal Officers and designate official capacity) (If partnership or assumed name, indicate names of owners)

CONTACT PERSON TO WHOM QUESTIONS REGARDING PROPOSAL RESPONSE SHOULD BE DIRECTED:

NAME: Alayne Hopkins TITLE: Senior Director of Programs & Services

PHONE: 651-366-6488

EMAIL: alayne@thefriends.org

To be considered for this project, the following forms must be uploaded to the MITN website (www.mitn.info) in a PDF format. Proposal responses shall include in the following order:

LIBRARY STRATEGIC PLAN **REFERENCE FORM**

COMPANY NAME: Library Strategies

Reference Company Name: Wilsonville Public Library	
City/State: Wilsonville, OR	
Summary of Work Performed: Library Strategies facilitated the Wilsonville Public Library's strategic planning process during 2020-2021. The delivery of our RRP™ process was a hybrid project, with some of the work being completed virtually during the Covid-19 pandemic.	
Dates of Work: 2020-2021	
Company Contact Person: Shasta Sasser	Title: Interim Director
Phone Number: 503-570-1590	Email: sasser@wilsonvillelibrary.org

Reference Company Name: Community Library Network	
City/State: Post Falls, ID	
Summary of Work Performed: Library Strategies provided the Community Library Network with a comprehensive Strategic Planning RRP™ process in 2022 to help the Library maintain direction and focus during its upcoming service growth initiatives and building projects. Services included staff and community surveys, stakeholder interviews, and a community retreat. Particular attention was paid to both individual library needs and the overarching goals for the Network.	
Dates of Work: 2022	
Company Contact Person: Amy Rodda	Title: Director
Phone Number: 208-773-1506, ext. 315	Email: amyr@communitylibrary.net

Reference Company Name: Loudoun County Public Library	
City/State: Leesburg, VA	
Summary of Work Performed: Loudoun County Public Library engaged Library Strategies for strategic planning in 2019. The planning process for the Library included staff and community surveys, a community retreat, and coordinated discussions to identify six Strategic Goals with an Implementation Plan. As a part of the project, Library Strategies also conducted a Staffing Assessment for LCPL.	
Dates of Work: 2019	
Company Contact Person: Chang Liu	Title: Director
Phone Number: 703-771-5235	Email: chang.liu@loudoun.gov

**STATEMENT OF QUALIFICATIONS
LIBRARY STRATEGIC PLAN**

Respondents must answer all questions. If more space is needed to complete a question, attach a separate sheet.

Company Name: Library Strategies

Address 1080 Montreal Avenue, Ste. 2, Saint Paul, MN 55116

Contact Person: Alayne Hopkins Title Senior Director of Programs & Services

Phone No. 651-366-6488 Email alayne@thefriends.org

1. Number of years operating under you present name: 16
2. Number of years present owners have owned the company: 16
3. How many years of experience does your company have providing the services specified in the bid documents? 16 years
4. List municipalities/public libraries who the bidder has serviced in the past five (5) years to present:

Name of Municipality	Term of Service
Muskegon Area District Library, Michigan	Strategic Planning, 2021
Arlington Libraries, Massachusetts	Strategic Planning, 2021
Dubuque County Library District, Iowa	Strategic Planning, 2020-21
Kitchigami Regional Library System, Minnesota	Strategic Planning, 2020-2021
Jackson County Library District, Oregon	Strategic Planning, 2021-2022

5. General nature of work performed by your company:
Consulting work in strategic planning, fundraising, Friends/Foundations, and board leadership and training for libraries and library support organizations across the country.

6. Have you performed work for the City of Livonia in the last ten (10) years? If so, please specify:

Year of Service	Department Served	Description of Services Provided
n/a		

7. List the members of the team who will oversee the contract and the roles they will perform.

Name	Title	Role	Years of Experience
Cathi Alloway	Consultant	Lead consultant, overseeing project	30 yrs
Cindy Fesemyer	Consultant	Supporting consultant, community engagement	10 yrs
Kathy Dempsey	Consultant	Supporting consultant, community engagement	15 yrs
David Katz	Project Manager		8 yrs

8. What challenges to you foresee?

Engaging non-users of the library in community engagement activities is always a challenge. Finding a feasible solution for the currently shuttered branch is also a consideration and potential challenge.

9. What is included in your base price for services? What services will incur additional fees:

Background research, community and staff surveys- English language, 6-8 stakeholder interviews, community retreat, strategic plan and dashboard; additional services: extra interviews, translated surveys, extra focus groups, implementation planning.

COMPANY NAME: Library Strategies

PROPOSED PROCESS: Work Plan and Scope of Work

If selected by the City of Livonia and Livonia Civic Center Library, the Library Strategies team will employ a four-phase process that builds upon itself – moving from data gathering and organizational assessment, to staff and board input, to community engagement and planning. Rapid Results Planning™ is tailored to yield maximum community input yet focused results, all on an aggressive timetable, typically 4-6 months from initiation to completion.

Methodology and Tasks

Phase 1: Preparation, Data Analysis & Benchmarking

Strategic Planning Committee Meeting

Library Strategies recommends forming a Strategic Planning Steering Committee at the outset, if one has not already been organized. This committee will oversee the process; provide local context and insights; identify key leaders and influencers; and help ensure the final plan is inclusive and comprehensive. We recommend the Planning Committee be comprised of 8-12 members from the following individuals:

- Library Director, and one or two other lead staff
- One or two Board of Trustees members
- Friends leadership
- City government representatives as deemed appropriate
- Community leaders representing at least two of the following:
 - Business
 - Philanthropy
 - Education (Livonia Public Schools)
 - Arts & Culture

In brief, the role of the Strategic Planning Committee is to:

- Provide critical information on the Library and Livonia service area;
- Identify key stakeholders to engage in the process;
- Assist with invitations/logistics for community engagement activities;

- Approve and oversee the work plan and timeline; and
- Review drafts of the strategic plan.

The initial meeting of the Planning Committee with Library Strategies will address the following agenda items:

- Clarify roles/responsibilities for data gathering, reporting, logistics, etc. Agree on the process and steps of the planning process, including expectations for timing of deliverables.
- Identify critical documents and data to inform the planning process (library usage data, demographic projections, relevant local government documents, etc.).
- Establish initial focus areas for community input. These could include staffing models, specific communities, technology infrastructure, operational considerations (such as hours of operation), alternative models for library service delivery, etc.
- Identify individuals who will be invited to participate in the community engagement phase, with careful attention given to including a broad representation of residents – both library users and non-users.

Depending on library and community preferences, Phase 3 Community Engagement will include an in-person Community Retreat or a series of virtual Community Focus Groups.

Community and Library Assessment

Library Strategies will conduct a data audit and assessment of the current Livonia Civic Center Library service area demographics, reports, library services, and resources. This audit will review:

- Census data + trends for White Lake Township Library, including:
 - ✓ Age distribution / Household status
 - ✓ Race and Ethnic background / Special populations
 - ✓ Income / Education
 - ✓ Population/ Geographic distribution
 - ✓ Economic development projections
- Library data (including branch by branch breakdowns, if applicable/available):
 - ✓ Circulation numbers and trends for the past 3-5 years
 - ✓ Library visits / programming attendance

- ✓ Technology access and usage
- ✓ Community outreach efforts
- ✓ Budget and financial sources
- ✓ Staffing patterns
- ✓ Board of Trustees structure and governance
- ✓ Friends/Foundation fundraising model / patterns
- ✓ Public relations and marketing

As part of the initial visit, a lead Library Strategies consultant will visit the Livonia Civic Center Library facilities. (The facilities visit may also be combined with in-person community engagement activities.)

Peer Analysis and Benchmarking

With input from the Library, the Library Strategies consultants will select 2-3 peer libraries to benchmark. Peers will be identified based on similar community size, community environmental distinctions, library size (staff, collections, usage), etc. Key areas of interest to Livonia Civic Center Library for benchmarking are likely to include budgets, funding sources and amounts, staff and volunteer workers, impact of Friends or Foundation, facilities, outreach services, collections and resources; specific benchmark targets will be agreed between the Library and the Library Strategies consultants to assure appropriate scope of this activity.

Phase 2: Stakeholder Input

Community Survey

Library Strategies consultants will design and administer a community survey. This tool will probe the interests and needs of the Library service area. Issues to be explored, both quantitatively and qualitatively, may include (but are not limited to):

- Awareness and perception of the Library;
- Satisfaction with Library services;
- Barriers to using the Library and its services;
- Facilities and diversity concerns;
- Opportunities for outreach;
- Future directions for the Library to best meet needs and expectations.

Our consultants will present a draft survey to Library leadership and make final revisions as necessary. If it is determined to be beneficial during the preliminary Steering Committee meetings, the online survey form may be translated to facilitate feedback from non-English speaking residents, at an additional cost as outlined in the Project Budget. The survey will be posted online using SurveyMonkey. If desired, Library Strategies will also format the questionnaire for print; the Library will be responsible for converting print survey responses to an appropriate electronic format. Library Strategies will assist in identifying the best outlets and a promotion strategy to encourage broad-based participation in the survey (online and physical outlets such as local media, churches, schools, businesses, municipalities and townships, partnership organizations, etc.).

All Staff Survey

An online staff survey will be designed to elicit information from *all* staff concerning library operations, programs, services, communication, aspirations and overall morale. The responses to this survey will also be collected via SurveyMonkey. A summary of the responses, as well as the raw data, will be made available to Library leadership. However, respondents will be ensured anonymity to encourage candor and a high response rate.

Staff SWOC Analysis

Library Strategies consultants will convene a SWOC analysis (Strengths, Weaknesses, Opportunities and Challenges) session with select staff members. This session provides an opportunity for internal stakeholders to express their insights and concerns in a collaborative session, and typically yield insights that complement and build upon the staff survey.

One-on-One Interviews

In preparation for Phase 3, Library Strategies consultants will conduct 6-8 confidential phone interviews with key informants: long-serving Library trustees, Council members, lead government officials, key community leaders, and similar stakeholders.

The list of interviewees will be developed in consultation with the Library Director and Steering Committee. Ordinarily, questions focus on interviewees' perceptions of their community's most salient needs; what the Library can do (and is not already doing) to address them; and key challenges the Library is facing in its mission to enhance residents' quality of life.

Phase 3: Community Engagement

Depending on preferences for the Library and community, Phase 3 Community Engagement will include an in-person Community Retreat, a series of virtual or in-person Community Focus Groups, or a combination designed to maximize opportunities for community members to participate. Library Strategies' initial recommendation is to conduct a community retreat or a series of three focus groups (in-person or virtual) to encourage participation from a wide range of individuals; this recommendation is flexible and can be adjusted to meet the needs and preferences of the Library.

The Steering Committee should be prepared to help develop the invitation list – usually twice as many people as you realistically expect to attend – and then personally invite them by mail, phone or email (with possible follow-up phone calls). See Appendix A for a profile of attendee recommendations. In total, we recommend 45-60 participants for this community engagement phase: In-Person Community Retreat, a series of Virtual or In-Person Focus Groups, or a combination.

In addition to facilitating the development of strategic goals, brainstorming and discussions during the Retreat or Focus Groups may contribute to updating the Mission, Vision, and Values statements for the Library.

In-Person Community Retreat

A day-long Community Retreat has been a cornerstone of Library Strategies' unique Rapid Results Planning™ (RRP™) process. This nimble process has been used to generate strategic plans for library organizations of all sizes across the country. The Retreat gathers a cross-section of users, non-users, diverse populations, and key stakeholders all in one room. By including many participants from all walks of life, the Livonia Civic Center Library gains valuable insights, while securing early buy-in and future advocates for its vision. As highlighted above, the price proposal includes an option to provide translation or interpreter services for the Retreat.

The in-person retreat agenda is frequently structured as follows:

1. **A short presentation by the Director on the current state/activities of the Library.** This gives all participants a common baseline understanding of what the Livonia Civic Center Library currently does – and how.
2. **A short presentation/discussion on regional and national trends.** The Library Strategies team will offer a short primer on “Libraries 101,” with an emphasis on emerging trends in this dynamic

field. Trends reviewed by the consultants might include technology, makerspaces, literacy programs, partnerships, community outreach, removal of barriers to service, etc. The two-fold goal is to offer participants a sense of what might be possible in terms of future directions and encourage them to think broadly about the Library's role in the community.

3. *A large group, "big picture" visioning session (and development of goal areas).*

This part of the retreat invites participants to brainstorm broad, strategic visions for the community and consider the Livonia Civic Center's Library's role as a contributor to residents' quality of life. In anticipation of addressing strategic goals, the group may review and identify potential modifications to the Library's Mission, Vision, and Values to enhance engagement with the strategic goals. Following the Mission, Vision, and Values discussion, this session will shift to discussions about strategic "goal areas" where the Library should concentrate its attentions over the next five years. These areas might pertain to technology, advocacy, marketing and outreach, collection management, workforce development, cooperative opportunities, etc. Specific "goal areas" will be identified through and driven by the multiple community inputs to ensure relevance to the White Lake Township Library.

4. *Small group strategy sessions.* Towards the end of the day, participants will be encouraged to dive deeper by brainstorming specific strategies likely to move the Library closer to its big, overarching goals. The consulting team will mediate these smaller discussions and facilitate a share-out at the end of the Retreat.

Focus Groups (virtual or in-person)

As an alternative to a day-long Community Retreat, Library Strategies has obtained successful results with multiple strategically planned and executed, community focus groups. The process includes representatives for a cross-section of users, non-users, diverse populations, and key stakeholders. Library Strategies and the Planning Committee will discuss options for the composition of the focus group invitees, which may be selected to bring together groups of similar stakeholders or a diversity of stakeholders, to provide optimal synergy in the discussions. Each focus group may include 8-10 participants and lasts 2 hours.

Similar to the Community Retreat format, Community Focus Groups are the culmination of the community engagement activities. Quantitative and qualitative information gleaned through the data

analysis, community survey, and interviews are used to drive the content of the Focus Group discussions. This provides a responsive and localized discussion platform for the Focus Groups.

As a tool to keep the Focus Group on track during the two-hour meeting, the facilitator may share a basic Agenda:

- Introduction to Library Strategies and our role in the process;
- Brief review of the What and Why for this Strategic Planning project;
- Review and group comments related to the Livonia Civic Center Library Mission, Vision, and Values statements
- 3-6 broad goal areas for the group to explore, add onto, modify, and/or discard.
 - Suggested starting goal areas are based on the outcomes of the earlier community engagement activities and defined during the preparation period.

While each of these options is available, what is “best” will be determined in consultation with Library leadership and may include a retreat, virtual focus groups, and/or in-person focus groups.

Phase 4: Crafting Strategic and Implementation Plans

Strategic Plan & Dashboard Tool

Following the Retreat or Focus Groups, Library Strategies consultants will draft a short, concrete Strategic Plan (typically 4 pages) for review by the Steering Committee. Depending on the Library’s needs, the Plan may also include new or revised mission, vision, or values statements.

The Steering Committee will determine whether the goals and strategies in the draft Plan are realistic, given finite resources, timetables, and their own evolving understanding of the community’s needs. Our consultants will then make revisions based on the feedback for final approval.

Ultimately, Livonia Civic Center Library’s planning document will be translated into an easy-to-interpret graphic. This illustrative accompaniment can be presented to the full board of trustees, other governing bodies as applicable, and the community at large. While this piece is typically more than 1 page long, a shorter version can be crafted per Library request.

Library Strategies has found that long-range planning only *truly* works if it becomes a part of regular, daily culture. Therefore, Library Strategies will also provide an easy-to-use dashboard measurement tool

to track the progress of the Strategic Plan over time. We recommend that the board review progress on the Strategic Plan at every regularly scheduled meeting.

Implementation Plan (optional)

In order to move the Plan forward, our process can also include a consultant-facilitated implementation planning step. Using the goals outlined in the approved Strategic Plan, staff collaborate on a detailed operating work or implementation plan to reach the Plan goal, with a primary focus on year 1 objectives.

Hallmarks of an Implementation Plan include:

- Action steps for reaching the strategic goals
- Resources needed (funding, staffing, strategic partners, etc.)
- Responsibility delegation
- Deadlines for task completion
- Outcomes or measures for each strategy

The Implementation Plan is usually an internal working document and *not* approved by the Board. In that way, it remains flexible and most useful to Library administration and staff. This Implementation Plan should become a regular discussion item at staff meetings and updated by the Library staff at least annually.

Library Strategies is pleased to remain in contact with many previous clients. The Library will receive a follow-up evaluation survey, and consultants are available beyond the contracted planning project for any questions from Library leadership. The Library Strategies team will generally follow up after approximately six months have passed into the new strategic plan to check in with Library leadership on how the implementation is progressing.

DELIVERABLES

Library Strategies will provide the following deliverables from the project activities:

- Benchmarking Analysis
- Community Survey Summary Report *(and raw data)*
- Staff Survey Summary Report *(and raw data)*
- Staff SWOC Analysis Write-Up/Notes
- Community Retreat Notes
- Draft and Final Strategic Plan *(including mission and vision statements, if needed)*
- Strategic Plan Tracking Dashboard
- Implementation Plan (optional)

Project Timeline

The tentative timeline presented here is flexible and represents a typical RRP process. The timeline will be adjusted at the initiation of the project to accommodate key stakeholders of the Library and the deadline for approval of the strategic plan.

ACTIVITY	Month 1	Month 2	Month 3	Month 4	Month 5
Phase 1: Preparation, Data Analysis & Benchmarking					
Initial meeting, finalize work plan	X				
Collect Library and other background data	X				
Data analysis, assessment & trending		X			
Phase 2: Stakeholder Input					
Create and publish online community survey and staff survey		X			
<i>(Optional) Translate and publish community survey for non-English language audience</i>		X			
<i>Optional) Translate non-English language survey results for analysis</i>			X		
Synthesize and analyze survey results			X		
Present summary survey report				X	
Staff SWOC Session				X	
One-on-One Interviews				X	

ACTIVITY	Month 1	Month 2	Month 3	Month 4	Month 5
Phase 3: Community Engagement					
Launch retreat or focus group invitation process		X			
Facilitate RRP™ retreat or series of focus groups				X	
Phase 4: Crafting Strategic Plan					
Submit draft Strategic Plan				X	
Revise and present final Strategic Plan					X
Create Dashboard Measurement					X
<i>(Optional) Develop and finalize Implementation Plan</i>					X

EXCLUSIONS/EXCEPTIONS

There are no exclusions or exceptions.

KEY PERSONNEL / PROJECT TEAM

See appendices for consultant vitas.



CATHI ALLOWAY served as Library Director for the Schlow Centre Region Library (PA) and co-Director of the Federation of Centre County Libraries (PA) for ten years. She brings over thirty years' experience in library leadership, plus volunteer leadership positions with professional associations and community organizations. Alloway has written and presented extensively on library management, community

engagement, outreach services, fundraising, and library trustee roles. She is a native of Detroit and graduated from the University of Michigan.



CYNTHIA FESEMYER brings a decade of experience in public libraries following fourteen years managing non-profit organizations. Fesemyer served as a member of the Public Library Association Board (2018-2021) and is currently serving as a Trustee for the Madison (WI) Public Library. Fesemyer participated in ALA's first Library Transforming Communities cohort, honing her skills in community engagement.



KATHY DEMPSEY has been immersed in library marketing since 1994, working as the Editor of *Marketing Library Services*, Author of *The Accidental Library Marketer*, and Founding Chair of the Library Marketing and Communications Conference. She started her own consultancy, Libraries Are Essential, in 2005. Dempsey has published countless articles, and she speaks frequently for state, national, and international audiences.



DAVID KATZ is Programs and Services Manager with Library Strategies. In that capacity, he manages the firm’s special and ongoing projects, as well as its day-to-day administration. He holds an MLIS from the University of Wisconsin – Madison. Katz will contribute remotely to the survey research, drafting of reports, and other data synthesis, as well as assist with overall project management.

This is a tentative assignment of key personnel for the project. Final assignments will be determined based on scheduling for the project activities and availability of individual consultants.

The project team will be assisted by a strong “back room” of staff at The Friends of the Saint Paul Public Library, including two additional consulting staff, and two marketing and design professionals.

PROJECT BUDGET

Library Strategies proposes to provide the below stated services for the following fees. Fees are based on a daily rate of \$1,800 (\$225.00 per hour).

Notes: (1) More than one consultant may be involved at various steps in the process. (2) Library Strategies does not charge for consultant travel time.

CONSULTING ACTIVITY DESCRIPTION	PROPOSAL Consultant Days	OPTIONAL Consultant Days
Phase 1: Preparation and Data Review		
Planning Committee meeting and facilities tour	1.5 day	
Data collection and review	1.0 day	
Phase 2: Stakeholder Input		
Create, post and manage online English-language surveys 1. Staff survey 2. Community survey	1.5 days	
Optional: Translate, post and manage online non-English language community survey		1.0 day per translated survey
Analyze and draft survey summary reports	1.0 day	
Staff SWOC analysis and write-up	1.0 day	
Conduct 6-8 stakeholder interviews (English language)	2.0 days	Additional interviews at 4 per 1.0 day
Optional: Conduct non-English language stakeholder interview(s)		0.5 day per non-English interview
Phase 3: Community Engagement (One full-day in-person Retreat or four 2-hour Virtual Focus Groups)		
Launch community participants invitation process and session preparations	0.5 day	
Facilitate RRP™ Retreat or Focus Groups	3 days	
Optional: Facilitate non-English language Virtual Focus Group		1.0 day per focus group
Phase 4: Strategic Plan		
Draft and finalize Strategic Plan	2.5 days	
Dashboard measurement tool	0.5 day	

Optional: Work with staff to develop Implementation Plan		2.0 days
Consultant days @ \$1,500 per day		
Total Consulting Fees	14.5 consultant days = \$26,100	Optional Services: Additional, as described

TOTAL ESTIMATED FEES WITHOUT OPTIONAL SERVICES (NOT TO EXCEED): \$27,000

The above outline of services and budget are flexible, and the budget would be adjusted based on the actual services needed by the Library. For instance, if the Library recently has conducted its own community or staff survey, those services would be an extraneous and the budget could be modified accordingly. Additionally, if the Library elects to conduct more of the consultant services remotely, travel expenses would correspondingly be reduced.

CONCLUSION

Library Strategies would be pleased to partner with the Livonia Civic Center Library on its upcoming strategic planning process. We believe that our consultants' knowledge and experience with libraries nationwide, and in the region, positions us well to be an asset throughout this key period for the Library.

Thank you for considering this proposal.



Library Strategies
The Friends of the Saint Paul Public Library
1080 Montreal Avenue, Ste. 2
Saint Paul, MN, 55116

Alayne Hopkins
Director, Programs & Services
alayne@thefriends.org
651-366-6488

librarystrategiesconsulting.org

APPENDIX A: RETREAT PARTICIPANTS

Community Engagement, Phase 3, is a cornerstone of the Rapid Results Planning™ process. While the exact composition of the participants group is determined in the process, Library Strategies strongly recommends that the following community audiences are included:

- Lead library staff/staff representatives (3-5)
- Library board/trustees (3-4)
- Municipal/County, or other, public officials (2-3)
- Library Friends leaders (2-3)
- Head or staff from an affiliated regional or system library (1)
- Local school leaders and one or two teachers (2-4)
- Business leaders – from varied businesses or Chamber of Commerce (2-4)
- Representatives from other cultural or arts organizations (2-4)
- Representatives from social service agencies (2-4)
- Other governmental department heads (1-2)
- Religious leaders (1-2)
- Representatives from civic groups, such as Rotary or Kiwanis (1-2)
- Local philanthropic community, such as a community foundation, etc. (1-2)
- Colleges or university leadership – if in the area (1-2)
- Representatives from nearby military bases – if in the area (1-2)
- Local labor leaders (1-2)
- Homeschool community (1-2, if significant users of the Library)
- Include representatives from certain demographics important in the community and to the library (it is likely that there is some duplication from above stakeholders):
 - people from diverse groups in the community with notable populations
 - seniors
 - parents with small children (very good to have attend)
 - teenagers (Youth Council, etc.)
 - 20- and 30-somethings
 - people who are disabled
 - special library user groups
 - GLBTQ community
- Other groups that the planning team identifies as locally important

APPENDIX B: CONSULTANT VITAS

CATHERINE SUYAK ALLOWAY

Areas of Expertise

- Strategic Planning
- Building and Facilities Plans
- Library Management

Experience

2010-2021	Library Director, Schlow Centre Region Library, State College, PA
2010-2021	Co-director, Federation of Centre County Libraries, State College, PA
2002-2010	Public Services Director, Dauphin County Library System, Harrisburg, PA
2000-2002	Instructor, Department of Library Science, Clarion University of Pennsylvania
1994-2002	Director, Hershey Public Library, Hershey, PA
1990-1994	Director, East Shore Area Library, Dauphin County Library System, Harrisburg, PA
1988-1990	Director, Access and Information Services, St. Louis Public Library, St. Louis, MO

Education

Master of Library Science, University of Michigan, 1978

Bachelor of General Studies, University of Michigan, 1977

Professional Affiliations and Honors

Exceptional Service Award, Juniata Chapter, Pennsylvania Library Association, 2016

Graduate, Leadership Centre County, State College, Pennsylvania, 2011

Certificate of Merit, Pennsylvania Library Association, 2003

Graduate, Leadership-Harrisburg Area, 1993

Multiple leadership, committee and task force roles, Pennsylvania Library Association, 1992-present

Vice President, PaLLS Statewide Integrated Library System Consortium, 2011

Multiple committees, Commonwealth Libraries – Pennsylvania (state library), 1991-2003

ALA Leadership Training Committee, American Library Association, 2010-2012

CYNTHIA FESEMYER

Areas of Expertise

- Strategic Planning
- Board Development; Trustee Engagement
- Facilitating Community Engagement

Experience

2015-present	Continuing Education Instructor, University of Wisconsin, Madison
2019-2021	Adult and Community Services Consultant, Wisconsin Department of Public Instruction
2016-2018	Associate Lecturer (LIS), University of Wisconsin, Madison
2016-present	Board of Trustees, Madison (WI) Public Library
2012-2019	Library Director, Columbus (WI) Public Library

Education

MLS, University of Wisconsin, Madison
MA, Literature, and MA, Teaching Writing, Humboldt State University (CA)
BA, English, University of Wisconsin, Madison

Professional Affiliations and Honors

- American Library Association, multiple conference and webinar presentations, 2016-present
- ALA Public Programming Office
 - Libraries Transforming Communities Advisor, 2016-present
 - 21st Century Libraries Advisor for programming competencies, 2020-present
 - Libraries Transforming Communities participant, 2013-2015
- Public Library Association
 - Finance Committee, 2021-present
 - Board member, small/rural, 2019-2021
 - Leadership Academy Fellow
- Ch. 4 *Partnering for Great Impact* and Ch. 5 *Respect and Compromise Aid School-City Partnership* in M. Davis-Fournier (Ed.) *Ask Listen Empower: Grounding Your Library Work in Community Engagement*. Chicago, IL: ALA Publishing, Inc. (2021)
- *Food for Thought: Feeding Mind & Bodies at Public Libraries* in C. Smallwood (Ed.) *Social Justice and Activism in Libraries: Moving Beyond Diversity to Action*. Jefferson, NC: McFarland & Company, Inc. (2019)

KATHY DEMPSEY

Areas of Expertise

- Library Marketing and Communications
- Writing, Editing, Proofreading, Publishing
- Presenting / Training, online and in-person

Experience

2019 – 2021	Marketing Consultant for Koios, a vendor that runs Google Ads for libraries
2005 – present	Founder and Marketing Consultant, Libraries Are Essential, Medford, NJ
1994 – present	Editor, <i>Marketing Library Services</i> newsletter, Medford, NJ
1997 – 2003	U.S. Correspondent, <i>Information World Review</i> news magazine, London, U.K.
1995 – 2007	Editor, <i>Computers in Libraries</i> magazine, Medford, NJ
1994 – 1995, 2008	Editor of library-industry books, Information Today, Inc., Medford, NJ
1993 – 1994	Tech Services Assistant and Circulation Clerk, Handley Public Library, Winchester, VA
1992 – 1994	Information Coordinator for an LSTA project and Library Assistant, Serials Clerk; Smith Library, Shenandoah University, Winchester, VA
1989 – 1992	Assistant / Associate Editor, <i>Publishing and Production Executive</i> magazine, Philadelphia, PA
1986 – 1988	Clerical Assistant for Access Services and Bibliographic Assistant, Ambler Campus Library, Temple University, Ambler, PA

Education

Temple University, Philadelphia: B.A. in Journalism, Minor in English, 1986
University of Toronto through edX: LA101x, Library Advocacy Unshushed (MOOC), Honor Code Certificate, April 2015
Digital Marketing Institute / American Marketing Assn.: Certified Digital Marketing Professional (online course), Credential ID 27641657, January 2021

Professional and Volunteer Leadership

Community Emergency Response Team (CERT): Burlington County, NJ
New Jersey Library Association: Newsletter Editorial Board
Conference Founder and Chair: Library Marketing and Communications Conference
LibraryLinkNJ, The New Jersey Library Cooperative: Executive Board

DAVID KATZ

Areas of Expertise

- Strategic Planning
- Building and Facilities Plans
- Library Management
- Research and Project Management

Experience

2012-present	Programs and Services Manager, Library Strategies, St. Paul, MN <i>Responsibilities include serving as manager of the Minnesota Association of Library Friends, coordinating the metro-wide Club Book author series, co-coordinating the Minnesota Book Awards, and research and project management support for Library Strategies Consulting Group</i>
2011-2017	Research Consultant, Minnesota Historical Society, St. Paul, MN
2012-present	Office Manager, Minnesota Assoc. of Library Friends, St. Paul, MN
2008-2011	Communications Assistant, Schreiber Inc., Green Bay, WI

Education

B.A. (Journalism) – University of Minnesota
B.A. (History) – University of Minnesota
MLIS – University of Wisconsin, Madison

APPENDIX C: RECENT AND CURRENT CLIENT LIST

Feasibility Studies & Capital Campaign

Counsel:

Appleton Public Library (WI)
Alexander Mitchell Public Library (Aberdeen, SD)
Davenport Public Library (IA)
Montclair Public Library Foundation (NJ)
Sawyer Free Library, Gloucester (MA)
Tulsa City-County Library (OK)
Upper Dublin Public Library (PA)
Watertown Public Library (WI)
Waukesha Public Library (WI)
Winter Park Public Library (FL)

Facilities Planning/Assessments:

Big Horn County Public Library (WY)
Brentwood Library (TN)
Central Arkansas Library System (Little Rock, AR)
City of Byron (MN)
Clarksville-Montgomery County Library (TN)
Detroit Lakes Public Library (MN)
Douglas County Library (MN)
Duluth Public Library (MN)
Franklin County Library System (PA)
Gardiner Community Library (MT)
Kingsport Public Library (TN)
Lake Agassiz Regional Library (MN)
Marathon County Library (WI)
Marathon Public Library (TX)
Moorhead Public Library (MN)
Palm Springs Public Library (CA)
Park Rapids Public Library (MN)
Racine Public Library (WI)
Shawano Public Library (WI)
Swarthmore Public Library (PA)

Friends & Foundations:

Friends of the Bozeman Library (MT)
Friends of the Maple Lake Library (MN)
Fairhope Public Library Foundation (AL)
Friends of the Hennepin County Library (MN)
Friends of the Inver Glen Library (MN)
Friends of the Osceola Public Library (WI)
Frisco Library Foundation (TX)

Grosse Pointe Library Foundation (MI)
Houston Public Library Foundation (TX)
Huntsville Library Foundation (AL)
Kitsap Regional Library Foundation (WA)
Madison Public Library Foundation (WI)
Muscogee Public Library Foundation (GA)
St. Helena Friends & Foundation (CA)
The Foundation for Sarasota County Libraries (FL)
Tulsa Library Trust (OK)
Worcester Public Library Foundation (MA)
Jackson County Library Foundation (OR)
Kenosha Public Library (WI)

Strategic Planning*:

Anoka County Library (MN)
Arlington Heights Public Library (IL)
Atlanta-Fulton County Library Foundation (GA)
Bayport Public Library (MN)
Bozeman Public Library (MT)
Brentwood Library (TN) – 2 rounds
Bridgman Public Library (MI)
Central Arkansas Library System (Little Rock, AR)
Champaign Public Library (IL)
Chattahoochee Valley Libraries (GA)
Clarksville-Montgomery County Public Library (TN) – 2 rounds
Commerce Township Public Library (MI)
Council of State Library Agencies (KY)
Council Bluffs Public Library (IA)
Cromaine District Library (MI)
Crystal Lake Public Library (IL)
Davenport Public Library (IA)
Decatur Public Library (IL)
Dubuque County Library District (IA)
Duluth Public Library (MN)
Evanston Public Library (IL)
Friends of the Bozeman Library (MT)
Friends of the Maple Lake Library (MN)
Glencoe Public Library (IL)
Gwinnett County Library (GA)
Hudson Area Joint Library (WI)
Jackson County Library District (OR)

King Abdul Aziz Library (Riyadh, Saudi Arabia)
Kingsport Public Library (TN)
Kitchigami Regional Library System (MN)
Lewis & Clark Public Library (Helena, MT)
Loudoun County Public Library (VA)
Menomonie Public Library (WI)
Meridian Library District (ID)
Minnesota Genealogical Society (MN)
Montana State Library – IMLS (MT)
Montclair Public Library Foundation (NJ)
Muskegon Area District Library (MI) – 2 rounds
Newark Public Library (NJ)
Nobles County Public Library (MN)
Normal Public Library (IL)
Nova Southeastern University Libraries (FL)
Palm Springs Public Library (CA)

Robbins Library (Arlington, MA)
SAMMIE regional system (MN)
Schlow Centre Region Library (State College, PA)
SELCO/SELS regional system (MN)
SENYLRC regional system (NY)
St. Charles City-County Library District (MO)
Stillwater Public Library (MN) Traverse des Sioux
Library System (MN)
Washington County Library System (MN)
Washington County Library System (PA)
White Plains Public Library (NY) – 2 rounds
Wilsonville Public Library (OR)
Wisconsin Dept. of Public Instruction
Woburn Public Library (MA)

In addition to the above planning related clients, Library Strategies has worked with numerous libraries across the country and internationally, providing such services as feasibility studies, capital campaigns, development plans, staff plans, advocacy training, board training, marketing, and program evaluation.



Strategic Planning Services

Livonia Public Library
Livonia, MI

Prepared by ReThinking Libraries
September 27, 2022

September 27, 2022

Livonia Public Library
45175 Ten Mile Road
Livonia, MI 48375

Livonia Library Strategic Planning Team,

We would love the opportunity to work with you and your community and are pleased to submit a proposal for consulting services to assist in the development of a *Strategic Plan* for the Livonia Public Library (LPL). As a library consulting firm, we have been involved in numerous facilities projects, strategic plans, building programs, and other work with hundreds of libraries across the US. Clients range from small rural public libraries to large urban facilities, and everything in between.

Over the past several years, our team has developed a successful and efficient way to plan with libraries. Instead of strict adherence to a fixed methodology, we work with each client to tailor the planning tools to best fit each library and their community. We focus on the overarching goal of creating a strategic plan that can live and react to today's quickly shifting world. Regardless of overall methodology settled upon, our work typically includes the following activities:

- Collection and library data analysis
- Direct input from stakeholders (users and non-users), staff, and board members with a focus on aspirational input over problem-focused input, adapted to COVID related constraints as necessary
- Segmented demographic analysis
- A comparison benchmark report (with multiple comparison cohorts both regional and national)
- Discussion of best practices for 21st century libraries as a part of the stakeholder input process, which is part of our aspirational input (or appreciative inquiry) process.

All findings are synthesized, and goals and strategies are collaboratively developed to successfully guide Livonia Public Library into the future. The final deliverable provides LPL with a process to keep its strategic plan living, breathing, and updated throughout its lifetime.

This proposal is firm and irrevocable for 120 days. We look forward to the opportunity to respond to questions and further explain our process as needed. Please don't hesitate to contact us with any questions.

Best regards,



Rob Cullin, Managing Principal

13092 Grand Vue Drive, Carmel, IN 46032
317-509-3268 rob@rethinkinglibraries.org

Executive Summary

The Livonia Public Library's (LPL) leadership has expressed interest in consulting services to assist with the creation of their next strategic plan. ReThinking Libraries (RTL) is pleased to submit a proposal for partnering with LPL on this project. It is understood that LPL is embarking on this process beginning in October of 2022 to develop a plan to guide decision-making over the next five years, to be complete and adopted by the board no more than 6 months after notice to proceed. It will define the role of the Library and serve as a framework for setting Library vision, goals and creating a service plan. The plan will aid in maintaining and improving existing services as well as identifying new needs. It will reflect the needs and realities of the Library, align with the overall needs of your community and help elevate the role of the Library to a higher level of service.

This is intended to be a highly collaborative process incorporating extensive input from those connected with the Library, community leaders and residents. Input will be gathered using a variety of means as determined by the consultants and the Library Planning Team. It is intended to engage both users and non-users of the Library. We will work with the Library to determine the best approach, whether it is virtual, in-person or a hybrid process in the development of the plan. Every effort will be made to conduct this process in an inclusive manner allowing broad participation while taking into account the Library desires, local COVID guidelines and the comfort level of participants.

The RTL team views its role in this project as facilitator and collaborator. We don't make decisions for you; we help you make the best decisions about your Library's present and future. We will analyze information and offer professional recommendations based upon observation, stakeholder feedback, demographics, and assessment of Livonia Public Library's existing services, facilities, and community. We will also facilitate staff and board strategy planning meetings to help the team find the right strategic vision for your community's library. RTL will work with the LPL team, prior to the formation of the plan, to benchmark and evaluate library practices, staffing, efficiencies, etc. Once the plan has been created, RTL will also be available to LPL to offer best practices for measuring progress as the plan is implemented.

It is essential all involved have a clear vision of what needs to be done based on the in-depth assessment of the existing situation, consideration of new and emerging trends in library services, and an understanding of local realities. Included will be training on processes allowing for the on-going evaluation of progress toward the established goals and the understanding and confidence to develop new strategies as the plan evolves. It is important to account for shifts in community composition and uncover changing needs. Any possible partnerships and collaborations maximizing resources while minimizing duplication of services will help utilize public funds more efficiently.

Key Staff - Library Experience and Backgrounds

For this project, RTL's team will be led by Managing Principal, Rob Cullin though just as actively involved will be Principal/Senior Consultant, Janet Nelson. Together Rob and Janet will be responsible for coordination of all onsite and offsite work, managing the project communications and timelines, and coordinating all deliverables. We may partner with other RTL Associates and will include them in the project as needed typically for functions like assisting with community discussion groups (note taking).

Rob Cullin helped launch Kimberly Bolan & Associates in November 2004 which evolved into ReThinking Libraries in 2020. Rob's primary involvement with KBA began in 2005 when he and Kim co-authored *Technology Made Simple* and began writing and presenting together across the United States. Since then, Rob has been involved in many of KBA/RTL's strategic planning and facility planning projects. Through his previous work as President and Co-Founder of Evanced Solutions, LLC (later acquired by Demco, Inc.) he was involved with thousands of libraries across the USA, Canada, and Australia. With a broad set of experiences reaching beyond libraries, Rob has direct specialties in strategic planning, community engagement, complex data and demographic analysis, marketing, service, and organizational design. He was also a *Library Journal* recognized "Mover & Shaker" in 2008.

Janet Nelson co-founded ReThinking Libraries with Rob Cullin in 2020. She began working with Rob on library consulting in 2019 and has been involved with numerous strategic planning and facility projects. She has over 20 years of experience in the education market, 17 of those years with Demco, Inc. During her tenure with Demco she started as a Furniture Product Manager and moved into a variety of more strategic roles. Her focus has always been directed toward helping librarians and library staff better serve their communities. Janet helped launch the Demco Library Interiors division and began collaborating with Kimberly Bolan on teen library spaces in 2006. Over time, that relationship evolved into more comprehensive projects and shared speaking engagements on library trends. Additional projects at Demco involved engaging with industry partners and library leaders/staff to create dialog and better understand the immediate and future needs of U.S. libraries. Specific areas of expertise include strategic planning, marketing strategy, research and development, and space planning.

SEE APPENDIX A FOR COMPLETE RESUMES

The RTL team has capacity to manage this project from the proposal stage through to the final delivery on the plan and is readily available via phone, email or video conferencing. The team is very adept at managing multiple projects at a time, providing strong communication and quality service to keep the things moving and delivering the project on schedule.

Company Information

In 2004 Rob Cullin helped Kimberly Bolan start Kimberly Bolan & Associates, a national library consulting firm based outside Indianapolis (IN). Once Kim returned to work as a library administrator, Rob continued his work in library consulting. Janet Nelson joined Rob in 2019 and they relaunched the business as ReThinking Libraries in 2020. Over the past 17 years, the RTL Team has been involved in numerous facilities projects, strategic plans, building programs, and other work with hundreds of libraries across the US. Clients range from small rural public libraries to large urban facilities, and everything in between.

The RTL Team focuses on helping public libraries improve their operations and better serve their constituents. Areas of specialization include Strategic Planning and Assessment, Facility and Space Planning and Design, Marketing Planning and Community Awareness, and 21st Century Library Services and Transformation.

Our team is passionate about understanding what it takes to be a successful and thriving 21st century library. Our approaches assist libraries with understanding and implementing successful services and spaces, increasing the efficiency of operational processes such as circulation and information services, incorporating and managing technology, streamlining behind-the-scenes activities, improving web-based access, and more. We are about helping libraries survive and thrive in an environment of constant change. Change occurs every day with shifting demographics, newer and better technologies, increasing real and virtual competition, not to mention, a somewhat uncertain financial outlook. Our team addresses these issues using a holistic approach.

Our Strategic Planning Experience

Strategic planning is a primary service offered by RTL. Rob has led over 50 public library strategic or related planning projects in the past 7 years. Janet also has been involved in developing 20 strategic plans in the two and a half years she has been with the organization. Our services are differentiated by our custom approach that is adapted to the needs of each client. We bend to meet your needs and not the other way around. Typically, the process evolves throughout the course of the project to achieve the best results. Our approach can be very basic for libraries that are new to strategic planning or quite advanced for those pushing for more cutting-edge approaches to library service.

Our team has been involved in strategic planning for a multitude of organizations since 1996. Our work has taken place with libraries, library associations, non-profit organizations, and small and large for-profit businesses. We have been facilitators, analysts, executives, team leaders, and team members in plan development. Since 2014 alone, RTL team members have worked with over 100 different library organizations; conducted over 600 community engagement sessions with over 9,000 attendees; and conducted more than 75 online surveys with over 20,000 participants. We don't just plan community engagement with our clients, we help them successfully get people engaged in the processes.

Throughout these experiences, as well as Rob and Janet's previous business experiences, they have worked with a variety of strategic planning methodologies, approaches, and styles. This variety has enabled them to work with many different approaches to address planning for various types of organizations, communities, and organizational cultures.

A sampling of the recent Strategic Plans and Community Assessments facilitated:

- Mount Prospect Public Library (IL) – (2021-2022) – [Strategic Planning](#)
- Newburgh-Chandler Public Library (IN) – (2021) – [Strategic Planning](#)
- Fulton County Public Library (IN) – (2021-2022) -- [Strategic Planning](#)
- Charlotte Mecklenburg Library (NC) – (2020-2021) – [Facility Master Planning](#)
- Handley Regional Library (VA) – (2019-2020) – [Facility Master Planning](#)
- West Haven Library (CT) – (2020-2021) – [Strategic Planning and Efficiency Study](#)
- Adrian District Library (MI) – (2020-2021) – [Strategic Planning](#) and Facility Planning
- Saline District Library (MI) – (2020-2021) – [Strategic Planning](#)
- Catawba County Public Library (NC) – (2019-2020) – [Strategic](#) and Master Facilities Planning
- Waverly Public Library (IA) – (2018 and 2020) – [Strategic Planning](#) and Facility Assessment
- Cedar Falls Public Library (Cedar Falls, IA) – (2020) – [Strategic Planning](#)
- Liberty Lake Public Library (WA) – (2019) – [Strategic and Facility Planning](#)
- Alexandrian Public Library (IN) – (2019) – [Strategic Planning](#)
- Redford Township Public Library (MI) – (2018) – [Strategic](#) and Facility Planning
- Orion Township Public Library (MI) – (2014 and 2017) – [Strategic and Facility Planning](#)
- Allen County Public Library (Fort Wayne, IN) – (2018) – [Strategic](#) and Master Facilities Planning
- St Joseph County Public Library (South Bend, IN) – (2017) – [Community Needs Assessment](#)

For all of these clients and our many others not listed here, we worked to determine the approach and methodologies that would give each library the best results and fit within their allotted budgets.

A Sample project report can be found in Appendix B and several links are provided to access additional information.

FORM OF PROPOSAL **LIBRARY STRATEGIC PLAN**

Bid of ReThinking Libraries, LLC hereinafter called Bidder, organized and existing under the laws of or a resident of the State of Michigan, doing business as a limited liability corporation *.

* Insert as applicable: "a corporation", "a partnership" or "an individual"

TO THE CITY OF LIVONIA, MICHIGAN, hereinafter called OWNER:

The undersigned as Bidder hereby declares: that this Bid is made in good faith without fraud or collusion with any person or persons bidding on the same Contract; that the Bidder has read and examined the Notice to Bidders, Instructions to Bidders, Bid, General Conditions, Supplementary Conditions, Agreement, Forms of Proposal, Bond, Specifications and Drawings, as prepared by the City of Livonia, and understands all of the same; that the Bidder or its representative has made personal investigation at the site and has become fully familiar with regard to the conditions to be met in the execution of this Contract, and the undersigned proposes to furnish all labor, materials, tools, power, transportation, and construction equipment necessary for the construction of the Project and performing related work in full accordance with the aforesaid Contract Documents, including any and all Addenda officially issued, their receipt of which is hereby acknowledged:

Addendum No.

Addendum Date

The work may be awarded per item.

Item No.	Item Description	Complete for the Sum of:
1	Five-year strategic plan for the City of Livonia Library	Not to exceed: \$ 26,950

FEE SCHEDULE

ROLE	DUTIES PERFORMED	HOURLY RATE
Project Management	Kickoff, Data Collection, Logistics, Project Mgmt	\$175/hour 14 hours
Data Analysis	Demographics, Benchmarks, Collection Analysis	\$175/hour 26 hours
Stakeholder Engagement	Presentation Development, Session Facilitation	\$175/hour 32 hours
Community Survey	Survey Design, Deployment and Analysis	\$175/hour 28 hours
Strategic Retreat	Preparation, Data Compilation, Session Facilitation	\$175/hour 38 hours
3-5 year High-level Plan Development	Synthesis of Retreat activities & plan writing	\$175/hour 9 hours
Library/City Communication	Monthly progress reports, Presentation to library	\$175/hour 3 hours
	commission	
Work Plan Development Assistance	Guidance of the library staff in the development	\$175/hour 4 hours
	of the 12-month work plans	

In submitting this sealed bid, it is understood that the City of Livonia reserves the right to reject or accept any or all proposals in whole or in part and waive any irregularities and informalities therein. It is agreed that this bid may not be withdrawn for 120 days from the opening thereof.

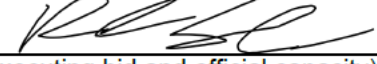
Number of days it will take to complete the project upon being given notice to proceed

160 DAYS

The contractor and their sub-contractors agree that they will not discriminate against any employee or applicant for employment, to be employed in the performance of this contract with respect to their hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of their sex or age, except when based on a bona fide occupational qualification, or because of their race, color, religion, national origin or ancestry. (Act 453 P.A. 1976 As Amended) The contractor further agrees that they will take affirmative action to insure that applicants are employed and that employees are treated during employment without regard to age, sex, race, creed, color or national origin. Breach of this contract may be regarded as a material breach of contract.

Bidder will identify business entity as individual, or if doing business under assumed name, indicate assumed name, partnership, (naming partners), corporation, foreign or domestic (naming principal officers), and indicate official capacity of person executing proposal and bid.

Date 9/26/2022 Firm Name ReThinking Libraries, LLC
(If corporation, partnership, or assumed name)

Address 13092 Grand Vue Drive, Carmel, IN Signature 
(Person executing bid and official capacity)

Print Name Rob Cullin

City Carmel State IN Zip Code 46032

Email Rob@rethinkinglibraries.org

Phone 317-509-3268 FAX N/A

Rob Cullin, Managing Principal Janet Nelson, Principal
(Names of Principal Officers and designate official capacity) (If partnership or assumed name, indicate names of owners)

CONTACT PERSON TO WHOM QUESTIONS REGARDING PROPOSAL RESPONSE SHOULD BE DIRECTED:

NAME: Janet Nelson TITLE: Principal

PHONE: 608-444-1733

EMAIL: janet@rethinkinglibraries.org

To be considered for this project, the following forms must be uploaded to the MITN website (www.mitn.info) in a PDF format. Proposal responses shall include in the following order:

LIBRARY STRATEGIC PLAN REFERENCE FORM

COMPANY NAME: ReThinking Libraries

Reference Company Name: Mt. Prospect Public Library	
City/State: Mount Prospect, IL	
Summary of Work Performed: RTL was chosen to facilitate a Strategic Plan for 2022-2025. All standard planning services were utilized. In addition, a Spanish survey and facilitation of a multi-lingual community session was included. There was also a virtual staff workshop that was attended by over 120 staff members.	
Dates of Work: December 2021 – June 2022	
Company Contact Person: Su Rynders	Title: Director
Phone Number: 847-590-3220	Email: sreynanders@mppl.org

Reference Company Name: Saline District Library	
City/State: Saline, MI	
Summary of Work Performed: Strategic Planning was initiated in December 2019 for SDL's 2020-2025 Plan. This project was well underway with data gathering, community sessions, and survey were completed and we are preparing for a Strategic Retreat when the COVID-19 pandemic hit. The project was put on hold but restarted and was completed in the Fall of 2021.	
Dates of Work: December 2019 – December 2021	
Company Contact Person: Karrie Waarala	Title: Director
Phone Number: 734-401-1261	Email: karrie@salinelibrary.org

Reference Company Name: Newburgh-Chandler Public Library	
City/State: Newburgh, IN	
Summary of Work Performed: This engagement was for the development of a 5-year Strategic Plan for this 3 branch system. The project was more internally focused and had less community engagement work due to extensive previous public feedback on other projects.	
Dates of Work: April 2021 – November 2021	
Company Contact Person: Trista Smith	Title: Director
Phone Number: 812-942-9997	Email: tsmith@ncplibraries.org

STATEMENT OF QUALIFICATIONS LIBRARY STRATEGIC PLAN

Respondents must answer all questions. If more space is needed to complete a question, attach a separate sheet.

Company Name: ReThinking Libraries

Address 13092 Grand Vue Drive, Carmel, IN 46032

Contact Person: Rob Cullin Title Managing Principal

Phone No. 317-509-3268 Email rob@rethinkinglibraries.org

1. Number of years operating under you present name: 2.5
2. Number of years present owners have owned the company: 2.5
3. How many years of experience does your company have providing the services specified in the bid documents? 2.5 years (Previously Kimberly Bolan & Assoc. with 15 years of experience)
4. List municipalities/public libraries who the bidder has serviced in the past five (5) years to present:

Name of Municipality	Term of Service
City of Sterling Heights, MI/Sterling Heights Public Library	Strategic Plan-- March 2022-Present
Ypsilanti Public Library, MI	Strategic Plan-- April 2022-Present
City of Sun Prairie, WI/Sun Prairie Public Library	Strategic Plan-- May 2022-Present
Tuscaloosa Public Library, AL	Strategic Plan-- January 2022-Present, prior engagement for facility began in May 2021
Carnegie-Stout Public Library, Dubuque, IA	Strategic Plan-- January 2020-Present

**see attached for additional clients

5. General nature of work performed by your company:

Library Consulting Services specializing in the areas of Strategic Planning, Facility and Space Planning,

Marketing Planning, Community Awareness, 21st Century Library Services and Transformation

6. Have you performed work for the City of Livonia in the last ten (10) years? If so, please specify:

Year of Service	Department Serviced	Description of Services Provided
No services performed		

List municipalities/public libraries who the bidder has serviced in the past five (5) years to present:

<u>Name of Municipality</u>	<u>Term of Service</u>
East Chicago Public Library, IN	Facility Plan, July 2022-Present
Pike County Public Library, IN	Strategic Plan, August 2022 -Present
Mary Riley Styles Public Library, VA	Strategic Plan, June 2022-Present
New Hanover County Public Library, NC	Facility Advisement, July 2021-Present
Milton Public Library, MA	Technology Service Plan, June 2022 -Present
Spies Public Library, MI	Strategic Plan, June 2022-Present
Glencoe Public Library, IL	Strategic Plan, August 2022 -Present
North Valley Public Library, MT	Facility Plan, May 2022-Present
Durham Public Library, CT	Strategic Plan, April 2022 -Present
Jennings County Public Library, IN	Strategic Plan, October 2021-Present
New Providence Public Library, NJ	Strategic Plan, February 2022 -Present
Great Falls Public Library MT	Facility Plan, January 2022-Present
Starke County Public Library, IN	Strategic Plan, February 2022-Present
Clive Public Library, IA	Strategic Plan, November 2021-April 2022
Delray Beach Public Library, FL	Strategic Plan, March 2022-Present
Glendale Public Library, AZ	Facility Master Plan, November 2021-July 2022
Charlotte Mecklenburg Library, NC	Facility Master Plan, December 2020-December 2021
Mason County District Library, MI	Strategic Plan, November 2021-July 2022
Mount Prospect Public Library, IL	Strategic Plan, December 2021-June 2022
Fulton County Public Library, IN	Strategic Plan, October 2021-May 2022
Perry Memorial Library, NC	Strategic Plan, September 2021-May 2022
Portage Lake District Library, MI	Facility Plan, May 2021-January 2022
Saline District Library, MI	Strategic Plan, December 2019-December 2021
Huntingburg Public Library, IN	Strategic Plan, February 2020-November 2021
Newburgh-Chandler Public Library, IN	Strategic Plan, April-November 2021
Evansville-Vanderburgh Public Library, IN	Facility Master Plan, August-November 2021
Saratoga Springs Public Library, NY	Strategic Plan, February 2020-June 2021
Adrian District Library, MI	Strategic Plan, September 2020-April 2021
West Haven Public Library, CT	Efficiency Study, July 2020-May 2021

Handley Regional Library, VA	Facility Plan, September 2019-September 2020
Catawba County Library System, NC	Facility and Strategic Plan, October 2019-August 2020
Cedar Falls Public Library, IA	Strategic Plan, December 2019-May 2020
Waverly Public Library, IA	Facility Plan, February-August 2020, Strategic Plan, July 2018-January 2019
Huntington Memorial Library, NY	Facility Plan, January-August 2020
LaGrange County Library, IN	Strategic Plan, May-November 2019
Alexandrian Public Library, IN	Strategic Plan, April-November 2019
Thorntown Public Library, IN	Strategic Plan, July 20-December 2019
Liberty Lake Municipal Library, WA	Facility and Strategic Plan, May-December 2019
Delaware County District Library, OH	Assessment and Facility Plan, August -December 2018
Free Library of Philadelphia, PA	Post Occupancy Evaluation,
Chemung County Public Library, NY	Facility Plan, June 2017-January 2018
Lincoln County Public Library, NC	Facility Master Plan, October 2016-May 2017
Redford Township Public Library, MI	Facility and Strategic Plan, June-November 2018
The Great Barrington Library, MA	Assessment and Facility Plan, March-August 2018
Allen County Public Library, IN	Facility Master Plan, February 2017-August 2018
St. Charles Public Library, IL	Facility Plan, August 2018-February 2019

7. List the members of the team who will oversee the contract and the roles they will perform.

Name	Title	Role	Years of Experience
Rob Cullin	Managing Principal	Proj Mgmt, Analysis, Comm Sessions, Retreat Lead, Initiatives	8FT/9PT Consulting, 20 Library
Janet Nelson	Principal	Proj. Mgmt, Survey Design/ Analysis, Comm Sessions, Mission, Vision, Values Development	3 FT Consulting, 23 Library

8. What challenges to you foresee?

Timely responses and decisions are required to project on track. Community engagement requires significant advance planning and will likely need to primarily be conducted post-holiday season which will put pressure on the retreat and report writing phases.

9. What is included in your base price for services? What services will incur additional fees:

All components listed on the prior page are included. Services incurring additional fees would be surveys in additional languages, facilitation of community sessions in Spanish, use of a graphic designer for graphic presentation of proposed Milestones

COMPANY NAME: ReThininking Libraries

Our Philosophy and Approach

RTL believes every community is different which means every library is different. What works in one community may not work in another (even nearby) community. Our approach to library planning and assessment is based on collaboration, open communication, and showing stakeholders “the possibilities” for their Library. It is also about identifying what stakeholders and members of the community want and need from their Library in terms of services and spaces. Understanding the community and the Library is at the center of our process.

At a core level, RTL is not married to a single philosophy or methodology of strategic planning. A variety of different approaches and tool sets can help any organization arrive at a solid plan. Throughout our professional work, we have been exposed to and worked with many philosophies, processes, and tools and, if selected, we will work with your team to determine what tools and methodologies best fit your community and your library.

All that being said, RTL does have two overriding philosophies that drive our vision for successful and dynamic strategic planning for 21st century libraries:

1. Ample community input from library users, non-users, community leaders, staff, and board members based on aspirational discussions instead of problem-focused dialogue. Though we don't formally call this appreciative inquiry, many of the premises and approaches are similar.
2. A final plan that is dynamic and easy to “live.” The plan must maintain a certain level of flexibility, while still being measurable, to address the shifting landscape facing today's public libraries.

Our methodology centers on the previously mentioned philosophies and helping organizations build both a strategic framework and a more strategically-minded culture. This methodology helps differentiate between the three key levels of strategy: organizational, programmatic, and operational. We incorporate research and analysis of existing data with direct staff and user input gathered through community engagement sessions, online surveys, and one-on-one discussions. Typically, RTL's process leads to a 2-6-page plan that encompasses the top levels of strategy. In addition, a separate annual work plan is developed focusing on the operational level with the details and tactics of the plan.

A big strength of this process is its inherent design around feedback. As you live the plan, the process helps you constantly evaluate your Library against what is planned and, when necessary, allows for changes and adjustments to be made. No plan can predict the future. The best plan and process is one

that accepts this fact and builds evolution into the process, while still maintaining a discipline holding to the higher mission and vision of the library and its community.

Of key importance to a project such as this is the quality of the communication and collaboration between RTL and LPL's Strategic Planning Team. As your consultants, we must effectively share analyses and opinions, so all stakeholders can fully understand the implications of decisions that may be made. In turn, the Strategic Planning Team must help RTL fully understand the local context related to any resulting choices. Timely response in providing requested information and replies will help to keep the project on schedule and all participants fully engaged.

Regardless of the process and tools chosen for your project, RTL's overall goal for strategic planning is to encourage our clients to think and innovate. We are interested in motivating libraries to move to the next level. We want our clients to end up with a concise plan they can live and breathe, not just file with their state agency and/or stick in a drawer. Our role is not to develop the "consultants' plan" or the "staff and board's plan" for LPL. Rather, our responsibility is to help LPL educate its public, generate ideas and solutions, and develop a plan that reflects its community members and the future.

Public libraries in the 21st century, regardless of size and budget, can thrive and become the center of their community, providing valuable services and facilities for residents of all ages. Focused and visionary planning is the only way libraries can continue to be successful within the confines of limited human and fiscal resources. The result is an improved library that effectively delivers services targeted to the community's expectations.

Methodology

ReThinking Libraries takes a holistic view of planning. We incorporate library usage data, local demographic and psychographic information, multiple forms of community input and benchmarking data to develop a plan seeking to understand past history but focusing on future aspirations and the initiatives and activities needed to achieve the vision. Our expertise in community engagement is a strength and we help libraries maximize community participation during the input phase. Since we work nationally, we are adept at navigating the requirements of different library governance structures and are familiar with the wide variety of funding models characteristic of public libraries. We are well versed in the trends impacting today's libraries and have practical experience that can be applied to a variety of different situations.

Our own processes have been tested over the past two and a half years, but we have successfully adapted and are now well versed in conducting planning activities in virtual, hybrid or in-person environments based on health requirements and client desires. We have also had opportunities to dig more deeply into some pressing concerns including diversity, equity and inclusion, homelessness and poverty, sustainability, and other issues that are core to libraries collectively and to specific communities. These new approaches have resulted in more engaged participation by both organizations and individuals and plans that more deeply address some of the core issues making libraries vital to their communities.

The events of the past two and a half years have also made it clear that it is virtually impossible to predict the future and therefore critical that organizational culture, plans and processes are designed in a way that is flexible and can adapt rather than collapse under pressure. The nimble approach we encourage has helped our clients modify their approaches and move their libraries forward, even when their expected plans and outcomes change. This holds true in a crisis situation like we just experienced or simply as Library and community needs change.

As part of a typical strategic planning process, RTL will:

1. **Conduct a kick-off meeting** to discuss process and define initial elements such as LPL Strategic Planning Team introductions, timeline, library data requirements, community engagement methods, etc.
 2. **Establish a high-level timeline** that incorporates all agreed upon activities and deliverables to be completed by an agreed upon end date. Timeline will become more detailed as expectations are more clearly defined and schedules are developed. Depending upon scope, plans typically take 4-8 months to complete.
-

3. **Review and analyze data and information** gathered throughout this process and work with the Strategic Planning Team discussing what it means to be a successful and thriving 21st century library and how that translates to the planning process.
4. **Gather and analyze stakeholder input** from the community (users and non-users), staff, board members, etc. via community stakeholder discussion sessions and surveys. Working with the LPL Marketing team is essential in promoting both the community discussion sessions and the surveys through multiple channels.
 - a. Our typical approach for a library of LPL's size involves conducting about 9-11 in-person and/or virtual stakeholder sessions. RTL works with each client to adjust the approach to this engagement process to meet the needs of the community and library and the practicalities of the public health situation at the time of the sessions. With Library assistance to provide translation or our resource for Spanish translation, sessions can be offered in Spanish or other languages as well.
 - b. The format of sessions is generally as follows but will be tailored to your specific needs. These descriptions provide a sense of the scope of community input we will want to replicate, if possible, based on local guidance surrounding public health constraints.
 - i. Targeted Groups: 8-10 Total (Staff (2-3), Board (1 including Director), and targeted representative members of the public who are personally invited to the sessions).
 - ii. PLUS, one (1) Open All-Community Session.
 - iii. The content for these sessions can be the same or may be focused on particular topics essential to the community. Even when the overall discussion framework is the same, RTL tailors the conversations based on the particular experiences, life stages, and discussion interests of those in attendance.
 - iv. The targeted sessions may involve reaching out to specific groups (e.g., parents, seniors, educators) or may be defined by a particular topic (e.g., Youth and Education, Equity/ Diversity/Inclusion) whereas the open forum is more general and available to anyone in community who is interested in participating.
 - v. This phase centers around showing people the possibilities for their library and gathering aspirational input. For every client, RTL develops at least one but often multiple custom conversation enabling presentations that best suit the client's community.
 - vi. IF adjustments are needed to reduce travel costs, the pandemic limits community gatherings, or it just makes more sense for some or all of your groups to meet virtually,

RTL has become very skilled in stimulating good conversations and discussions in these virtual sessions. In some cases, virtual staff and community discussions have even been better than in-person sessions, as the format offers some advantages in offering balanced discussions and the opportunity for equal contributions from all participants.

- c. RTL can also work with the Strategic Planning Team to develop and conduct a general web-based convenience survey of the public. Our approach is to work with our clients to promote and advertise the survey on a broad level, targeting users and non-users.
 - i. RTL does not recommend spending extra library dollars to conduct full scientific-level studies. RTL has been involved in projects that made this investment and, in the end, did not get fundamentally better or more useful results than with this convenience survey approach.
 - ii. A paper version of the survey is also provided to the library (copies supplied by the library) for distribution to those community members who prefer that format. Typically, library staff or volunteers then enter these completed surveys but RTL can provide this service for a separate fee.
 - 5. **Facilitate a Strategic Planning Retreat.** This is typically a 6-to-8 hour long strategy session (over one to two days) that usually includes the Library Planning Team along with other key stakeholders (15 to 25 people in total typically) including, but not limited to, additional staff (supervisory and non-supervisory staff), Board members, community leaders, and general community members.
 - a. A “Findings Book” is developed from the data and research conducted and distributed to participants prior to the session, and a virtual session ahead of the retreat is held to offer a chance to discuss the “findings” and go through any questions related to its contents.
 - b. During this *Retreat*, we will distill the input gathered and discuss it, along with the best practices for 21st century public libraries. Through a series of small group and larger group exercises, the session will use a ground up approach to surface top issues and strategic opportunities that ultimately lead to the final plan.
 - c. LPL’s current mission, vision and values will also be reviewed and refined or developed as a basis for the key strategies.
 - d. Through the Retreat, RTL continues incorporating an aspirational approach to the planning process. The group will work to discover:
 - i. LPL’s identity (What is LPL? What does LPL want to be?)
 - ii. The key ingredients and focus of LPL strategies
-

iii. LPL's Mission, Vision and Core Values

- e. Again, the approach to this Retreat may need to be adjusted based on the evolving state of public health. This could mean working with a smaller group or some other in-person or virtual approach devised by RTL in conjunction with LPL leadership.
6. **Develop a high level 2-6-page *Strategic Plan*.** This is the initial deliverable directly resulting from the *Retreat*. This document sets the high-level focus areas and strategic outcomes for the library and is structured in a concise way to provide easy reference and guidance to library leadership and staff. The approach to this document is also to develop a format that can live, breath, and be easily referenced on a day-to-day basis.
7. **Assist the Library Planning Team with the creation of a detailed *Work Plan*.** This document with a 12-month time frame will be developed each year and focuses on the details of executing the high level plan (e.g., action steps, tactics, milestones, resources, budget/funding, etc.).
- a. The *Work Plan* is developed primarily by Library leadership and staff with some initial formatting and structuring and then kickoff assistance from RTL. But like all things related to our approach, this can be modified if needed. It is followed by remote guidance and assistance as needed.
 - b. RTL will work with LPL to make sure this plan is actionable, measurable, and help to establish a process where this Work Plan is updated and reviewed frequently and renewed annually.
 - c. RTL is available to assist with the development of a new annual Work Plan each year on a schedule best meeting the needs of the Library. If additional follow up discussions are desired as the plan is implemented, RTL will schedule those with the Library as needed.
8. **Develop presentation(s) and present City Council/Library Board with strategic planning progress and high-level plans** at multiple stages in the course of the process as needed/requested. We find every client and Board varies in how often they want to check in or hear from us during the project. We work with each client to deliver the desired level of engagement (within reason).

Our process develops the long-term vision and identifies areas where effort is needed to achieve those goals. The annual work plan details the specifics to achieve progress toward the goals and is evaluated and adjusted on a regular basis. Since it is nearly impossible to predict the future five years in advance, we have found the annual work plan to be a much more productive means of guiding the library. Typically, most of the work plan is developed by Library leadership and staff as they are much closer to

the needs and capabilities of the Library and the community. As consultants, we are available to help guide the work plan and offer suggestions that help to push the Library in areas which may be outside of their comfort zone, but we can be more involved if needed.

Since the services we offer tend to be bespoke and tailored to needs of each client, we allow our clients to determine if there are areas where they have staff expertise that may enhance the process. Our process is very collaborative and our experience has shown the involvement of Library leadership, staff, Board, Friends and the community encourages ownership and creates a plan that is better understood and more easily acted upon.

It is expected that a project of this scope would take approximately 154 hours. A detailed breakdown of the hours associated with each phase of the project are included with the Cost Breakdown.

A sample Certificate of Insurance can be found in Appendix C.

Deliverables

RTL's deliverables will/can include:

- A detailed community analysis including demographics, mapping of key social indicators/measurements
 - Organizational and community assessments
 - A multi-cohort comparison benchmark analysis of primary library metrics, regional, state, national and "best-in-class"
 - Collection turnover analysis
 - A summary compiled from stakeholder sessions, online survey, etc., which will include key priorities and goals emerging from these inputs
 - A 2-6-page high-level *Strategic Plan* focusing on the top 4-6 priorities coming out of the process.. *This is structured in a way to be an asset for the board and administration for reference on a consistent basis to gauge progress easily and efficiently.*
 - A one-page summary of the plan suitable for sharing with stakeholders
 - Assisting with the development of a detailed *Work Plan* that specifically addresses the details necessary for successfully executing the plan, including actions, timeline, resources, budget, etc. Most of the work here is done by the library staff but with the assistance and guidance of RTL.
-

Timeline Estimates

The COVID-19 pandemic has sometimes made it difficult to plan activities and set forth a definitive timeline for projects such as this. We will work with LPL to determine the best approach and schedule activities and deadlines accordingly as the situation evolves. The following outlines likely activities expected for the project. RTL will work with LPL and the Board to develop the timeline that best meets the timing needs and balances the best results in terms of community engagement.

Anticipated Timeline

- | | |
|--------------------------|---|
| • Late October/Nov. 2022 | Kickoff |
| • October-December 2022 | Data Gathering and Analysis |
| • Nov. 2022-January 2023 | Community Engagement/Stakeholder Planning and Promotion |
| • Dec. 2022-January 2023 | Staff, Board, and Friends Sessions & Interviews |
| • January-February 2023 | Community Engagement/Stakeholder Sessions and Surveys |
| • February/March 2023 | Synthesis and Planning Retreat, and Delivery of Findings Book |
| • March 2023 | High-Level Plan Development & Delivery to Library – within 2 weeks following the retreat |
| • March 2023 | Plan Refinement – 1-2 weeks following receipt of feedback |
| • March 2023 | Approval of final High-Level Plan at LPL Board meeting |
| • April 2023 | 12-Month Detailed Work Plan Development – Training, Support, and Assistance delivered following Board approval of Plan with ongoing support and assistance until the 12-Month Plan is complete. |
| • Annually | Ongoing Support/Assistance as needed with developing subsequent 12-Month Work Plans |

Cost Estimate

For this project, we are offering LPL the following rates:

- \$175/hour for Principals (Rob and Janet) (our no billable expenses allowed rate)
- \$135/hour for Other Associates (our no billable expenses allowed rate)

Work Area / Deliverable	Typical Costs	Approx. Hours
Kickoff / Data Collection / Logistics / Project Management	\$2,450	14
Data Analysis: Demographics, Advanced Benchmarks, Collection Analysis	\$4,550	26
Stakeholder Discussion Group Facilitation (English no-translator included)	\$5,600	32
Online Survey Design, Deployment, and Analysis	\$4,900	28
Strategic Retreat, includes all prep, data packet compilation, and virtual or onsite time	\$6,650	38
3-5 Year High Level Plan Development	\$1,575	9
Virtual plan review with the Board/City Council	\$525	3
12-Month Work Plan Development Assistance	\$700	4
Total Costs:	\$26,950	154 hours
Expected Expenses: Per Trip costs include travel, lodging, meals, and miscellaneous expenses.	Per RFP no allowable expenses	

Billing Approach:

- For Time and Material Option, billing is done monthly as incurred. Detailed invoices are provided with all expended time and incurred expenses listed with receipts.
 - For this option expenses (other than travel) will be billed as they occur.
 - Any other miscellaneous (printing, shipping, etc.) expenses will be billed at cost.

APPENDIX A:

Resumes

ROBERT CULLINEmail: rob@rethinkinglibraries.org**ReThinking Libraries****2004 – present (2004 -2019 dba as Kimberly Bolan and Associates, LLC)***Managing Principal / Library Evolutionist*

Prior to starting ReThinking Libraries, LLC with Janet Nelson, Rob helped establish Kimberly Bolan & Associates in November 2004. His consulting work kicked off when he co-authored *Technology Made Simple* with Kim Bolan and began writing and presenting together with her across the USA. Rob has been involved in all of RTL's strategic plans and most of the strategic planning work completed by KBA. He has also completed a number of facilities projects under both organizations. Through his work as the Co-Founder of Evanced Solutions LLC and later at Demco, Inc., he has been involved with thousands of libraries around the world. With a broad set of experiences reaching even beyond libraries, Rob has direct specialties in community engagement, strategic planning, technology, data, demographic & psychographic analysis, marketing, and organizational design.

Relevant Project Experience:

Newburgh-Chandler Public Library (IN) – Strategic Planning (2021-Present)
 Saratoga Springs Public Library (NY) – Strategic Planning (2020-2021)
 West Haven Library (CT) – Strategic Planning and Efficiency Study (2020-2021)
 Adrian District Library (MI) – Strategic Planning and Facility Planning (2020-Present)
 Saline District Library (MI) – Strategic Planning (2019-Present)
 Catawba County Public Library (NC) – Strategic Planning and Master Facilities Planning (2019-2020)
 Redford Township District Library (MI) – Strategic Planning (2018)
 Charlotte-Mecklenburg Public Library (NC) – Facilities Master Plan (2020-2021)
 Tuscaloosa Public Library (AL) – Facility Visioning (2021)
 Free Library of Philadelphia (PA) – POE Study (2018-2019)
 Allen County Public Library (IN) – Facility Programming, Planning & Design, Strategic Planning (2017-2018)
 Indianapolis Public Library (IN), New Eagle Branch – Facility Programming, Planning & Design (2017-2019)
 St Joseph County Library (IN) – Facility Master Plan (2017)
 Hamilton East Public Libraries (IN) – Facility Programming, Planning & Design (2015-2019)
 Lincoln County Public Library (NC) – Facilities Master Plan (2016-2017)
 Community Library Network (ID) – Facility Programming and Planning for 7 Branches (2015-2018)
 Anderson Public Library (IN) – Strategic Planning and Facility Planning (2015-2019)
 Greenwich Library (CT) – Facilities & Services Planning and Design (2013-2018)
 Orion Township Public Library (MI) – Strategic Planning, Facilities Planning & Design (2013-2018)
 Jennings County Library (IN) – Planning & Design, Strategic Planning, Org. Development (2014-2018)

ADDITIONAL EXPERIENCE:**Evanced Solutions, LLC, Indianapolis, Indiana****2002 – 2014***President and Co-Founder***As part of Demco, Inc. Madison, Wisconsin****2011 – 2014***Vice President***PUBLICATIONS:***Technology Made Simple*, Chicago: ALA, 2007."Web, Library, and Teen Services 2.0," *Young Adult Library Services*, Winter 2007."Technology Planning: The Big Picture for Small Libraries," *WebJunction* (November 20, 2006).**HONORS AND AWARDS:**

2008 Library Journal's Movers and Shakers Award

EDUCATION:

Purdue University, West Lafayette, IN and Indianapolis, IN, B.S. Electrical Engineering Technology

GE Six Sigma – Green Belt Certified

JANET NELSONEmail: janet@rethinkinglibraries.org**ReThinking Libraries****2019 – present (initially dba Kimberly Bolan and Associates)***Principal and Senior Consultant*

Janet co-founded ReThinking Libraries, LLC with Rob Cullin in 2020. Prior to that, she began her career in the library industry in 1999 as a Furniture Product Manager with Demco, Inc. During her time there, she worked in a variety of roles but always with a focus on providing libraries across the US with the products and services to best serve their communities. She was part of the team that envisioned and developed a service offering, known today as Demco Interiors. Janet began collaborating with Kimberly Bolan & Associates, LLC on design projects in 2006, starting with teen spaces. The collaboration evolved into more comprehensive library projects, speaking engagements and co-authoring articles on library trends.

In addition to her furniture/project experience, Janet has been involved in market research, strategic planning, and customer engagement, all focused on more thoroughly understanding and serving library needs. While at Demco she facilitated a “What’s Next?” Forum bringing together visionary library leaders and launched the online Ideas & Inspiration platform to share library ideas. With a broad set of experiences reaching even beyond libraries, Janet has direct specialties in strategic planning, marketing, research and development and space planning.

Relevant Project Experience:

Newburgh-Chandler Public Library (IN) – Strategic Planning (2021-Present)
 Huntingburg Public Library (IN) – Strategic Planning (2021)
 Saratoga Springs Public Library (NY) – Strategic Planning (2020-2021)
 West Haven Library (CT) – Strategic Planning and Efficiency Study (2020-2021)
 Adrian District Library (MI) – Strategic Planning and Facility Planning (2020-Present)
 Saline District Library (MI) – Strategic Planning (2019-Present)
 Catawba County Public Library (NC) – Strategic Planning and Master Facilities Planning (2019-2020)
 Charlotte-Mecklenburg Public Library (NC) – Facilities Master Plan (2020-2021)
 Tuscaloosa Public Library (AL) – Facility Visioning (2021)
 Handley Regional Library (VA) – Facility Assessment (2019-2020)
 Madison Central Library (WI) – Facility Design and Implementation (2013-2015)
 Jennings County Library (IN) – Facility Design and Implementation (2011)
 University of WI-Madison, Helen C. White Library (WI) – Facility Design and Implementation (2009-2012)

ADDITIONAL EXPERIENCE:**Nasco, Inc., Fort Atkinson, WI****2017 – 2019***Category Manager, Elementary Education/Early Learning***Demco, Inc., Madison, WI****1999 – 2016***Director, Library Engagement and Solutions*

- Collaborated on content strategy that included creation of *Ideas + Inspiration* website, webinars and relevant information and articles
- Developed *What’s Next?*, customer forum to explore future library needs
- Co-led start-up of Demco Interiors from feasibility studies to fully operational business unit

PUBLICATIONS:“Just for Them”, *Library Journal’s Library by Design*, May 2010.

Demco Ideas & Inspiration Blog Posts and Webinars, 2012 – 2016

Demco Interiors Blog, 2012 – 2016; ReThinking Libraries Blog, 2020-Present

EDUCATION:

University of Wisconsin-Stout, Menomonie, WI, M.S. Home Economics: Clothing (Design & Manufacturing)

University of Wisconsin-Stevens Point, Stevens Point, WI, B.A. Fashion Merchandising

APPENDIX B:

Sample Strategic Plans

This is just one example of the variety of plan formats we've developed for our clients. We'll work with you to make sure the format of your plan is optimized to how you want and need it.



Saline District Library

2022 to 2026 Strategic Plan High-Level

Adopted: October 20, 2021

Process Facilitated by
Rob Cullin & Janet Nelson



Saline District Library – Strategic Plan for 2022-2026



OVERVIEW OF METHODOLOGY:

Beginning in January 2020 and completed in October 2021, under the guidance of Saline District Library's (SDL) Library Director and Board of Trustees, the strategic planning process was completed for the Saline District Library for years 2022 – 2026. Library consultants Rob Cullin and Janet Nelson of ReThinking Libraries (RTL) facilitated the process and analyses, but the library and their community made all of choices and decisions in the process.

The Process

SDL's strategic planning process included the following key areas.

Gathering and analyzing community input and data, which involved benchmarking, demographic analysis, and collection analysis. In addition, SDL staff and Saline area residents were involved in exploring ideas and possibilities for the library as a thriving 21st century library. Stakeholder sessions were conducted by RTL February 5-7th, 2020. Participants included the general public, Saline City Council, educators, Coalition for a Quality Community, business leaders, the arts community, senior citizens, Friends of the Library, SDL staff members, and library trustees. Participants included frequent library users and infrequent and non-users and ranged in ages and backgrounds. Overall, one hundred three (103) stakeholders participated in the discussions regarding SDL's services and strategic future. Since our process was interrupted due to the COVID-19 pandemic we conducted an additional staff session on August 27, 2021. In addition to the stakeholder sessions, an online survey was conducted between February 6th and March 5th, 2020. Four hundred twenty-eight (428) surveys were completed. Survey participants included frequent library users (81%) as well as infrequent and non-users (19%). Survey takers ranged from under 19 to over 75 years of age. About 77% of survey takers were between the ages of 26 and 65 years of age, 17% were over 65 and 4% were under 25 years of age.

Developing solutions during a one-day Strategic Planning Retreat held on August 28, 2021. During the Retreat, all data and community input was reviewed with a planning team of fifteen (15) people, consisting of the library director, staff members, library board members, community leaders, and the general public. From the data, the group worked to establish essential strategic areas, specific goals, and related investments required to implement the goals to help the library thrive over the next five years and beyond.

What We Heard

The stakeholder sessions and online survey explored several topics including customer service, youth services, adult services, local history and genealogy, outreach services, programming, technology and digital services, the facility/building, collections and resources, collaboration and partnerships, community awareness, and overall 21st century public library best practices. Detailed summaries of all stakeholder feedback and online survey results were provided in separate documents to SDL's leadership and reviewed in depth during *the Strategic Planning Retreat*. All stakeholder input, data analysis, and follow-up exploration work led to the strategic focuses, goals, and investments outlined on pages six- ten of this document.

Evaluation & Collaboration

With the goal of achieving all outlined goals over the next five years, SDL administration, staff, and board of trustees will regularly evaluate their progress and achievements. Objectives set forth in this plan will be further detailed each year in a 12-month detailed work plan developed by the library staff. These annual 12-month plans will address specific actions, objectives, and goals in addition to specifying timing, required staff and financial commitments. In addition, the high-level plan contained in this document will be re-evaluated each year by the board prior to the development of the next 12-month plan to ensure the high-level goals still align with the needs and goals of the community. This balanced and systematic process also emphasizes that the resulting plan will be iterative and evolve substantially over the next several years.

The keys to SDL's implementation, evaluation and, ultimately, the success of its strategic plan will be:

- A thorough understanding of the plan as well as active involvement in implementing the plan by staff and the Board of Trustees
- Frequent and ongoing communication between administration and staff
- Frequent and ongoing communication between SDL's staff and its community
- Active collaboration between SDL's Board of Trustees, City Council, administration, staff, outside organizations, and the community

SDL Revised Mission-Vision-Values



MISSION

Saline District Library ignites a joy of discovery and builds community through resources, opportunities, and new ideas.

VISION

Our vision is a community empowered to discover, connect, and grow.

VALUES

The Saline District Library values:

1. Welcoming – Offering an inclusive and respectful environment where everyone feels welcome
2. Accessibility – Ensuring spaces, resources, and services for all within and beyond the walls of the library
3. Community – Creating meaningful, customer-focused experiences that engage, reflect, and enhance the community
4. Learning – Encouraging enrichment and lifelong learning through diverse resources and programs
5. Discovery – Sparking imagination and a sense of wonder that enriches lives

SDL: Strategic Focus Areas



SALINE DISTRICT LIBRARY

SDL will optimize indoor and outdoor library spaces to evolve as a destination within the community, providing experiential and interactive environments that delight users and improve quality of life.

- Ensure a variety of universally accessible spaces for all types of needs.
- Create more experiential and interactive learning environment.
- Make indoor and outdoor spaces as inspiring, inviting, and functional as possible.

1: Optimize Spaces

SDL will increase connections and services beyond the walls of the library.

- Provide resources and services to users throughout the community.
- Play a key role within the community through engagement, example setting, and exchanging best practices.
- Increase and deepen relationships and partnerships with organizations throughout the area.

2: Increase Connections

SDL will continue to adapt and optimize resources and services to meet the community's needs.

- Ensure resources, programs, and services are relevant, useful, and seen by the community as vital.
- Strive to make Diversity, Equity, and Inclusion an integrated part of organizational culture.
- Positively impact arts, culture, education, and other organizations within the community through the library's services and resources.

4: Enhance Resources

SDL will further build the library brand in the community and drive increased awareness

- Expand physical and digital marketing efforts to create connections and awareness within the community.
- Leverage relationships and partnerships to deepen library connections with the community.
- Continue to build the library's brand throughout the broader Saline area.

3: Expand Awareness



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1: Optimize Spaces

SDL seeks to optimize indoor and outdoor library spaces to evolve as a destination within the community, providing experiential and interactive environments that delight users and improve quality of life.

- Ensure a variety of universally accessible spaces for all types of needs.
- Become a more experiential and interactive learning environment for users of all ages.
- Make indoor and outdoor spaces as inspiring, inviting, and functional as possible

Priority Initiatives:

- Take a deep look at the current layout and space utilization of the library. Look at how those spaces need to be adjusted/updated and evolved to meet the current and future needs of the community and library users of all types and needs.
- Evaluate the current usage and availability of outdoor space surrounding the library. Look for innovative ways to better utilize and activate green space(s), look for ways to support usage and programming in these outdoor spaces.

Outcomes:

- Library is seen as a top destination for lifelong learning, leisure, and as a key 3rd place within the Saline area.
- Library is seen as an experiential and engaging destination for all ages.
- The library's outdoor spaces set a leading example for community spaces throughout the area.
- The library's spaces, services, and resources meet a high level of accessibility.

2: Increase Connections



SDL will increase connections and services beyond the walls of the library.

- Provide resources and services to users throughout the community.
- Play a key role within the community through engagement, example setting, and exchanging best practices.
- Increase and deepen relationships and partnerships with organizations throughout the area.

Priority Initiatives:

- Further invest and expand the library's outreach services and capabilities focusing on constituents with the highest needs and lowest access in terms of materials, programs, and technology.
- Continue to build a strong staff and leadership focus on diversity, equity, and inclusion, making these key elements of the library's culture and everyday work, services, programming, staffing, and actions.
- Invigorate relationship with Friends of Saline District Library, including promoting volunteer opportunities.

Outcomes:

- Outreach services reach a higher percentage of underserved and more remote residents throughout the district.
- Community partnerships are expanded and/or strengthened to drive both awareness and accessibility.
- Library is seen positively as shearing information and engaging the community around issues where the library is playing a leading role: e.g., Education, DEI, and Community Engagement.
- Community organizations and agencies see the library as a critical partner to engage with on community related issues and initiatives.
- Community organizations seek the library as a first stop in launching new community initiatives or when they want to convene a larger audience around a specific concern or community focused issue.
- The library is a key player or even organizer in efforts to develop contingency plans around future community crises, such as pandemics, that may affect the broader area.

3: Expand Awareness



SDL will further build the library brand in the community and drive increased awareness.

- Expand physical and digital marketing efforts to create connections and awareness within the community.
- Leverage relationships and partnerships to deepen library connections with the community.
- Continue to build the library's brand throughout the broader Saline area.

Priority Initiatives:

- Evaluate current marketing approaches for effectiveness and seek to better target marketing going forward.
- Consider more print promotional materials, e.g., newsletters, postcards, mailings.
- Upgrade the library's social media presence (depth and channels) and develop more digital content to engage more users and highlight content and issues important to the community.
- Expand the use of and library investment in community partnerships to further the marketing outreach capabilities of the library.
- Upgrade the SDL sign near the road.

Outcomes:

- Awareness of library services and resources are high among district residents, particularly within underserved and higher need segments of the community.
- Most residents of the district have a strong sense of what the library has to offer in terms of spaces, services, resources, etc.
- Saline area residents and organizations have enhanced engagement with the library.
- The library is considered the place to go for information about the local area.
- The library is an often-considered option when area residents are looking for something to do or somewhere to go.

4: Enhance Resources



SDL will continue to adapt and optimize resources and services to meet the community's needs.

- Ensure resources, programs, and services are relevant, useful, and seen by the community as vital.
- Strive to make Diversity, Equity, and Inclusion an integrated part of organizational culture and approaches to all services.
- Positively impact arts, culture, education, and other organizations throughout the community through the library's services and resources.

Priority Initiatives:

- Ensure that DEI (Diversity, Equity, and Inclusion) are key components in the growth and evaluation of resources and services offered by the library.
- Look for new ways to engage users and the community in programming. Seek more input on programs and additional community participation in programming. Look at programming as more of a community collaboration instead of "classes being offered by the library."
- Reevaluate material usage and collection development policies, looking to best align community/user needs and wants with collection management approaches and policies.
- Examine all library usage and approaches for how well they serve user access needs, stand up to scrutiny related to DEI, and provide a focus on serving user needs over staff convenience.

Outcomes:

- Library is known for offering the top learning leisure programming within the area.
- Library's physical and digital resources and materials meet or exceed community needs and desires.
- The library's programming is highly attended, and users share their good experiences with fellow residents.

APPENDIX C:

Sample Certificate of Insurance



CERTIFICATE OF LIABILITY INSURANCE

 DATE (MM/DD/YYYY)
 04/28/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Dimond Bros. Insurance, LLC 11708 North College Avenue Carmel IN 46032		CONTACT NAME: Adrian Duckworth PHONE (A/C, No, Ext): (317) 853-3500 FAX (A/C, No): (317) 853-3501 E-MAIL ADDRESS: adrian.duckworth@dimondbros.com															
INSURED ReThinking Libraries, LLC 7249 Arbuckle Commons Suite 438 Brownsburg IN 46112		INSURER(S) AFFORDING COVERAGE <table border="1"> <tr> <th>INSURER</th> <th>NAIC #</th> </tr> <tr> <td>INSURER A: The Hartford</td> <td></td> </tr> <tr> <td>INSURER B: Philadelphia Indemnity Insurance Co</td> <td>18058</td> </tr> <tr> <td>INSURER C:</td> <td></td> </tr> <tr> <td>INSURER D:</td> <td></td> </tr> <tr> <td>INSURER E:</td> <td></td> </tr> <tr> <td>INSURER F:</td> <td></td> </tr> </table>		INSURER	NAIC #	INSURER A: The Hartford		INSURER B: Philadelphia Indemnity Insurance Co	18058	INSURER C:		INSURER D:		INSURER E:		INSURER F:	
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INSURER B: Philadelphia Indemnity Insurance Co	18058																
INSURER C:																	
INSURER D:																	
INSURER E:																	
INSURER F:																	

COVERAGES		CERTIFICATE NUMBER: CL2212417027	REVISION NUMBER:				
THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.							
INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☒ POLICY ☐ PRO-JECT ☐ LOC OTHER:		Y	36SBAAK1TAX	01/29/2022	01/29/2023	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 1,000,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 \$
A	AUTOMOBILE LIABILITY ☐ ANY AUTO ☐ OWNED AUTOS ONLY ☒ HIRED AUTOS ONLY ☐ SCHEDULED AUTOS ☒ NON-OWNED AUTOS ONLY			36SBAAK1TAX	01/29/2022	01/29/2023	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
A	☒ UMBRELLA LIAB ☐ EXCESS LIAB ☐ DED ☒ RETENTION \$ 0			36SBAAK1TAX	01/29/2022	01/29/2023	EACH OCCURRENCE \$ 2,000,000 AGGREGATE \$ 2,000,000 \$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N	N/A	36WECAK1TLU	01/29/2022	01/29/2023	☒ PER STATUTE ☐ OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
B	Professional Liability			PHSD1557638	07/08/2021	07/08/2022	Each Claim \$1,000,000 Annual Aggregate \$1,000,000
DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required) Subject to the terms and conditions of the policy, The City of Sun Prairie, its elected and appointed officials, officers, employees or authorized representatives or volunteers, are added as additional insureds on the General Liability but only if required by written contract and only with respects to liability arising out of the goods provided by or on behalf of the named insured for the Certificate Holder. Subject to the terms and conditions of the policy, General Liability policy is Primary and Noncontributory in favor of the above additional insured(s). The Producer shown on the ACORD 25 will provide the Certificate Holder 60 days written notice of cancellation if cancellation of the policy(ies) shown on							

CERTIFICATE HOLDER City of Sun Prairie Finance Department 300 E. Main Street Sun Prairie WI 53590	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE
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ADVERTISEMENT FOR
REQUEST FOR PROPOSAL

CITY OF LIVONIA, MICHIGAN
33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154

STRATEGIC PLAN CONSULTANT FOR THE LIVONIA CIVIC CENTER LIBRARY

Sealed proposals will be received VIA THE MITN WEBSITE ONLY WWW.MITN.INFO until **2:00 P.M., Eastern Daylight Time, on September 27, 2022** at which time the proposals will be publicly opened and read aloud via Zoom. Each proposal shall be recorded together with the name of the bidder. Bids shall be in accordance with the requirements of this notice in order to be deemed “responsive.” Late proposals will be considered. No physical bid submission will be accepted. All proposals must be uploaded in Adobe Acrobat Format.

The City of Livonia Library is seeking proposals from professional firms with experience in working with Libraries to develop a five-year strategic plan.

Vendors may attend the bid opening virtually by using the following credentials:

Bid Opening Access

By Computer:

<https://us02web.zoom.us/j/82294127641>

By Phone:

Phone (312) 626-6799
Webinar ID: 822 9412 7641

Instructions and specifications may be obtained by registering with the Michigan Inter-Governmental Trade Network (MITN) at www.mitn.info.

All Addendums will be posted on the MITN website. Any information not obtained from the MITN website should not be relied upon. Faxed proposals in response to this request will not be accepted.

All proposals shall be submitted in Adobe Acrobat Format via the MITN website.

No bidder may withdraw his proposal within 120 calendar days after the date set for opening thereof.

The City of Livonia reserves the right to reject or accept any or all proposals in whole or in part and waive any irregularities therein. Acceptance of any proposal does not constitute a binding agreement until a written Contract is signed by both parties.

I. GENERAL INFORMATION AND REQUIREMENTS

The LPL seeks an qualified, professional facilitator to perform the following:

- Facilitate the strategic planning process using a methodology effective for public libraries.
- Gather data through community research that focuses on library users, non-users, and stakeholders to identify needs over the next five years (2023 – 2028)
- Facilitate planning meetings and public input sessions.
- Identify service priorities, goals, objectives, and activities.
- Identify gaps where current library operation is insufficient to meet those service priorities.
- Evaluate how the library can more effectively leverage the use of technology for both employees and patrons
- Make recommendations on how library can more effectively serve patrons who have physical, visual or emotional impairments.
- Keep the process as cost-effective as possible, using library staff and volunteers to collect and compile data as appropriate.
- Write and present the strategic plan that will be communicated to library stakeholders.

The proposed plan should include:

- An up-to-date community profile and identification of community markets.
- An assessment of the library's environment, including evaluation of strengths and weaknesses, quality of services, reputation, management, and budget, etc.
- Peer comparisons to other libraries of similar size and service population in the areas of program, services, finances, resources, space, etc.
- A review of current trends in library service and technology and an analysis of user expectations regarding those trends.
- Specification of guiding principles or core values of the organization with clearly defined meaningful, measurable priorities, goals, and objectives for which the library will hold itself accountable.
- Recommendations for improvements to services, finances, collection, technology (that integrates with the City's existing platforms), marketing, branding, staffing and facility configuration.
- Methods for keeping the process and participants focused and on-task, ensuring that the hard questions are asked, addressed, and resolved.
- Specification of a built-in process of regular review, evaluation and adjustment to the plan resulting from changes in the economic, demographic, or political climate.
- Recommendations for establishment of a mechanism for regular evaluation of customer needs, concerns, and satisfaction with service.

Proposal Content Requirements

Proposals must include the following elements:

- A **cover letter** providing a brief description of the firm or individual, name, address of consultant, telephone number, e-mail, and fax of principal contact person.

- **Executive summary** of the highlights of the proposal, which should not exceed one page in length, but convey the facilitator's understanding of the purpose and expected outcomes of this project.
- A summary of the **consultant's qualifications** and relevant experience along with a list of key personnel who would be involved in the process, with a description of their backgrounds and areas of expertise.
- We seek a facilitator who has considerable experience in the development of strategic plans. The facilitator must also possess demonstrated knowledge of modern public library services, trends, and functions.
- A **work plan** that contains a description of the methodology, tasks, timeline, and an estimate of the amount of time that would be spent on the project.
- **Exclusions, assumptions or exceptions.** Note any part of the proposal that is beyond the expertise of the consultant or would be better handled by local library staff.
- A project **budget and fee schedule** which includes consulting costs, clerical costs, and data analysis costs. Indicate a "not to exceed" total cost. Provide an estimate of the number of facilitator hours to be provided and the rate per hour. Any travel required by the facilitator, which is part of the normal scope of work, will be at the facilitator's expense.
- A statement of the insurance carried by the facilitator and a signature by an individual authorized to bind the proposer.
- References. Contact information for at least three organizations for which the facilitator has provided strategic planning services, and one sample of a complete report which the facilitator has prepared for a similar project.

The Library may, at its discretion, request one or more consultants attend a meeting, make a brief presentation, and answer questions posed by the Committee. The successful contractor should be prepared to make presentations to City stakeholders, boards, commissions, City Council if called upon to do so.

- LPL reserves the right to select a strategic planning facilitator based directly on the proposal or to negotiate with one or more respondents.
- LPL reserves the right to reject any and all proposals without penalty.
- LPL will not reimburse costs of preparing the RFP responses. The Library reserves the right to cancel the award of contract at any time prior to the execution of the contract by both parties.
- The responding consultants bear sole risk and responsibility for costs incurred in the preparation and mailing of the proposal.
- All information submitted shall be public record and subject to disclosure pursuant to the Michigan Freedom of Information Act.
- No Library Board or staff member shall have a financial interest in any proposal.

A draft report/plan and executive summary are to be submitted to the Library Director by within 120 days of the notice to proceed being issued.. The consultant shall provide one unbound original, along with 8 paper copies and an electronic copy of the draft report. The consultant shall provide a high level overview to identified staff and stakeholders of the draft report/plan. Feedback and revisions recommended by the Library Director shall be incorporated into the final version of the Strategic Plan within 21 days of receiving feedback.

The final strategic plan approved by the Library director and an executive summary are to

at a meeting of the Library Commission. All raw and summary data is to be delivered to the Livonia Public Library Director at the conclusion of the strategic planning process.

Section VII: Timeline

- RFP Issued August , 23, 2022
- Deadline for Questions September 14, 2022
- Proposals Due September 27, 2022
- Interviews with selected firms October 2022
- Contract Award October 2022

A. Proposal Instructions

Please read these instructions carefully. All the information requested must be provided. In submitting this sealed proposal, it is understood that the City reserves the right to reject or accept any or all proposals in whole or in part. It is agreed that this proposal may not be withdrawn for one hundred twenty (120) days from the opening thereof.

Sealed proposals will be received via the MITN website www.mitn.info until 2:00 P.M., local time, on SEPTEMBER 27, 2022 Each proposal shall be recorded together with the name of the company as per the instructions in the Advertisement for Bids. Proposals shall be in accordance with the requirements of this notice in order to be deemed "responsive." Late proposals will be returned unopened. Physical bids will not be accepted.

The contractors shall provide the following information, as a minimum standard, as part of their respective materials to be considered as a qualified vendor:

B. Proposal Format

Those firms interested in responding to this RFP should prepare an Adobe Acrobat document providing the information requested herein.

The City reserves the right to make changes to this RFP, with timely notification to vendors. Submitted proposals become the property of the City of Livonia and will not be returned to those responding.

The proposal response shall be neatly typed and printed on 8½ " x 11" paper with a minimum spacing of one and one-half lines. Proposals shall not-exceed 200 pages single-sided or 100 pages double-sided. Proposals shall include a minimum of three (3) references for projects of similar scope and size. The representatives shall have been involved in a similar project with the consultant. Include the name, title, telephone number, address and a brief description of the project and the role of the municipal representative in the project.

Vendors are prohibited from using the official seal of the City of Livonia in this proposal or in any other manner.

C. Issuing Office

This RFP was prepared by the City of Livonia Library. Questions relating to the project and its contents shall be addressed in writing to ENNA BACHELOR, PURCHASING MANAGER VIA EMAIL A EBACHELOR@LIVONIA.GOV. **The deadline for receiving questions in response to the RFP is no later than 3:00 p.m. EST, September 14, 2022.** The City does not guarantee a response to questions received after the question deadline. Questions received will be responded to in writing by the Community Resources and Parks and Recreation Departments in the form of addenda posted to the MITN website www.mitn.info.

D. Fair Employment Practices

The selected Consultant agrees not to discriminate against any employee or applicant for employment, to be employed in the performance of such contract, with respect to hire, tenure, terms, conditions or privileges, of employment, or any matter directly or indirectly related to employment, because of race, color, religion, national origin, age, sex, height, weight, marital status, being disabled, or disadvantaged person, or War Veteran. Breach of this covenant may be regarded as material breach of the contract as provided for in Act 220 and Act 453 of the Public Acts of 1976, as amended, entitled "Michigan Handicappers Civil Rights Act" and the Michigan Elliott Larson Civil Rights Act." The vendor further agrees to require similar provisions from any subcontractors, or suppliers.

The consultant shall furnish all necessary information and reports and shall permit access to its books, records and accounts by the City of Livonia for purposes of investigation to ascertain compliance with the non-discrimination/minority business provision of any resultant contract.

E. Rejection of Proposals

The City of Livonia reserves the right to reject any and all proposals received as a result of this RFP, or to negotiate separately with any source whatsoever, in any manner necessary to serve in its best interest. The City of Livonia does not intend to award a contract solely on the basis of responses to this RFP or otherwise pay for the information solicited or obtained.

F. Incurred Cost

The City of Livonia will not be liable for any cost incurred by the Consultant for any work performed through and including the execution of a contract for professional services, prior to the execution of a contract for professional services.

G. Addenda to the RFP

In the event it becomes necessary to revise any part of the RFP or provide clarification regarding the requirements stipulated herein an addendum shall be issued. Vendors should not assume changes have been made to the requirements unless changes are documented in the form of an addenda posted to the MITN website. Firms shall acknowledge receipt of each addenda with their proposal response.

H. Completeness of the Proposal Submittal

The submitted RFP shall address all items completely and thoroughly in accordance with the format provided and shall be signed by an officer of the firm authorized to bind the proponent to its provisions.

The contents and commitments in the proposal shall remain firm for one hundred twenty (120) calendar days from the submittal due date. If the Consultant team is composed of a prime consultant with sub-consultants, the sub-consultants shall remain exclusive to the prime described in the proposal until the end of the specific RFP proposal period. The total "remain exclusive" time will be one hundred and twenty (120) days from the proposal due date.

Exclusivity of sub-consultants is intended to allow sub-consultants to affiliate initially with as many primes as may be prudent. However, if none of the primes with which they have affiliated are short listed; they are not to attempt to affiliate with a prime who has been short listed. Sub-consultants will not be reviewed out of context with their original affiliations.

I. Consultant Responsibilities

The Consultant shall be capable, either as a firm or a team, of providing all professional services as described under "Scope of Services" and to maintain those capabilities until notification of the fact that their RFP was unsuccessful. Exclusion of any service for the project may serve as cause for rejection. The selected Consultant shall remain capable of providing all professional services as described under "Scope of Services" and shall maintain those capabilities until notified by the City of Livonia. Consultants may contract with sub-consultants on the Strategic Plan Project, but a lead consultant must be identified and must take responsibility of all the deliverables. The City reserves the right to request substitution of firms.

J. Acceptance of Proposal Package Content

The contents of the RFP package will be the basis for evaluation. Each consultant will be considered separately.

K. Project Funding and Compensation

The City of Livonia has set aside funding in the FY 2022-203 Budget for the completion of the work described in the Request for Proposal.

The submitted RFP shall provide a breakdown of budgeted hours, staff labor costs, and other direct costs by task and total. The total shall be a fee not-to-exceed without prior written authorization from the City of Livonia.

After the execution of a Contract with the selected Consultant(s), the City will conduct the compensation reimbursements in accordance with the following guidelines:

1. For Consulting/Design Services, a monthly invoicing procedure on a per project basis will be set up.
2. The Consultant shall keep records of all costs on the project. These records may be audited by the City of Livonia.

II. SCOPE OF SERVICES

A. General Overview & Department Profile

Section I: Introduction

The Livonia public Library (LPL) is seeking consultant services to assist the Board, staff, and community in developing a comprehensive strategic plan. The plan will include goals, measurable objectives, and proposed activities to meet community needs for the next three to five years with respect to future trends and technologies.

It will also identify funding needs to respond to service demands.

Plan objectives:

- Ensure that programming and facilities offered by the library are meeting the needs of all City residents
- Ensure that library services and resources are in line with user needs and expectations.
- Ensure long-term financial viability.
- Enhance user experience online and in person
- Boost visibility, awareness, and patronage among residents.
- Become better recognized as a community partner organization, particularly with local schools.
- Create a vibrant workplace that continues to attract and retain talented, creative and service-oriented employees.
- Create a strategic plan that outlines service goals which stakeholders support and are aware of, and which residents desire.
- The portions of the plan may be used to inform future branding strategies for the library
- Develop recommendations for training to increase skills and effectiveness of library staff and volunteers
- Identify opportunities for development of strategic partnerships
-

Section II: Background:

On March 1, 1957, William Brashear, Mayor of Livonia, signs Ordinance 159, thus approving the establishment of a Library and a Library Commission for the City. Initial library service began in a storefront building on Plymouth Road. The Sandburg Branch Library opened for service on Seven Mile Road in 1961. It measures 8600 square feet and has a meeting room capacity of 75 people. Since there were two buildings providing library service the one on Plymouth Road was called the "South Branch". In 1967 the Noble Branch Library opened for service, replacing the South Branch. The building has 12175 square feet and has a meeting room capacity of 85 people. The Vest Pocket Library opened for service in 1967 in a large room in the Civic Park Senior Center as part of the National Library Week observance that year and has since expanded into two rooms. The collection at Vest Pocket is geared toward senior citizen's interests and houses mainly large print books and paperbacks.

Livonia Civic Center Library opened August 1, 1988. The building area is 64,000 square feet (including Conference Wing and Atrium). The Auditorium capacity is 300 and the four meeting rooms can hold up to 35 people each.

Since the Livonia Libraries were on the cutting edge of technology, and were using

computerized catalogs since 1985, Civic Center Library opened without ever having the traditional card catalog. Their holdings were accessible by computer from the very first day.

On August 28, 2017, the Civic Center Library was renamed The Robert & Janet Bennett Civic Center Library, in honor of the Mayor and his wife who had such a big impact on the Livonia community. They were instrumental in the library's successful millage campaign and worked tirelessly with the Friends of the Library to raise money for the library. The result was a dedicated 1 mill in perpetuity. We are proud that the library now bears their names.

The main floor hosts the Children's, Tween and Teen areas, Circulation, Browsing, Fiction, Large Print, Movies and Music collections. There is a Friends Book Store, a large Auditorium and four meeting rooms.

The second floor contains Reference, Business, Adult Non-fiction, Audio Books, Adult librarian workrooms, Circulation and Automation librarians' office and the Head of Adult services office. Public Computers are available on this floor as well as the magazine collection. The Arts Commissions Art Gallery is also on this floor.

The third-floor houses administration, a board room and a staff break room.

The Carl Sandburg Branch consists of one large area that contains Adult, Children's and Teens, a meeting room and a circulation workroom and managers office. There are 4 public internet stations and the library is equipped with wireless technology.

The Alfred Noble Library closed in 2019 due to a building problem.

The Library has a five-member advisory Commission appointed by the Mayor. We are a department of the City of Livonia. Hiring is done by the Civil Service Commission and other services are done by City personnel (finance, payroll, legal, custodial, etc.) The City Council approves the library's budget each year.

The Library is part of the Livonia Civic Center Campus which includes: City Hall, Police and Fire Department, and the 16th District Court.

The Library employs a total of 29 full time and 26 part time employees and a pool of approximately 15 substitute librarians.

The population served has declined in the past ten years from 96,942 to 95,535. In 2021 our circulation was 560,379. As a Covid-19 measure, the Library reduced its hours by 10 hours in 2020. Between the pandemic itself and the reduced hours statistics have decreased but are on the rise again. The Library is currently open 58 hours per week. The LPL is a member of The Library Network cooperative and participates in MeLCat (a statewide inter-library loan system). The Library uses TLC Carl automation system for its catalog, and an internet time management and printing system. There are 9 public internet stations as well as wireless access.

E. Deliverables - Final Plans and Documents

A draft of the Comprehensive Master Plan will be prepared and will include all basic

components of the completed plan for public review, including:

1. Executive Summary.
2. A written summary of the individual plan elements.
3. A graphic presentation of proposed Strategic Plan Milestones.
4. Fee schedule and Cost Information

The selected firm will be expected to remain with the project through final presentation and adoption by the Administration and City Council.

The deliverables produced as a result of the contract between the consultant and the City for Strategic Plan Consulting services shall be the exclusive property of the City of Livonia. The consultant shall produce in any and all required formats for all deliverables to the satisfaction of the City of Livonia. The vendor shall retain no right to reproduce or reuse any concept unless written authorization is given by the City of Livonia.

F. Timetable and Progress

The final schedule for adoption will be determined during the negotiation of the professional services agreement, but in no case shall the timetable provided for completion of all components of the work program exceed six (6) months from the date of execution of the contract. Monthly progress reports shall be provided to the City indicating steps completed and a timetable for completion of remaining steps.

III. RFP EVALUATION AND CONSULTANT SELECTION

The City of Livonia will commission the services of a consulting firm or firms to assist with the development of a Strategic Plan to bring guidance to development of the Livonia Public Library System for the future. The firm that is selected will work in conjunction with City Staff, City Council, Administration and Evaluation Committee to support the development and implementation of the Plan. The City of Livonia will seek a firm with proven experience in developing strategic plans.

A. Evaluation Committee

All proposals will be evaluated by an Evaluation Committee made up of members of the City/Library Leadership. The Evaluation Committee will select the top candidates for interviews. The evaluation will be based on predetermined criteria as enumerated below, and all candidates will be ranked accordingly. The Evaluation Committee will submit its findings and recommendations to the Livonia City Council. The City Council makes the final determination as to the hiring of the professional consultant after review of the Evaluation Committee's recommendations, evaluation of the proposal, interviews of the consultants or obtaining such other information that the City Council may desire.

A firm will be selected by the City Council for the purpose of negotiating a contract. If a satisfactory contract cannot be negotiated with that firm, the City shall formally end negotiations with that firm and select the next most favored provider and attempt to negotiate with that firm.

B. Criteria for Selection

The criteria for selection of the consultant will include, but not be limited to the following:

1. The firm's specific approach to the project. Although the City has identified the general nature of services required, the consultant is encouraged to provide an innovative approach and methodology to provide the requested services.
2. Capabilities and previous experience in comparable projects of this type and the specialized experience and technical competence of the consultant.
3. Past record of performance on contracts with other governmental agencies, including such factors as quality of work, control of costs, and ability to meet established schedules.
4. Capacity of the personnel to perform the work in a timely manner.
5. Qualifications of individuals who will have direct involvement in tasks on this project.
6. Work plan and time line addressing all components of the project.
7. Schedule and cost identifying time allocated to all major components of the project.

The following general criteria will be used by the Evaluation Committee and City Council in the selection of a consultant:

	CRITERIA	MAXIMUM POINTS
1	Demonstrated knowledge, skills, and experience in conducting strategic planning projects for public libraries and other non-profits.	30
2	Work plan and timeline addressing all components of the project.	25
3	Cost	20
4	Methodology for carrying out tasks in the scope of work.	15
5	References	10

FORM OF PROPOSAL

LIBRARY STRATEGIC PLAN

Bid of _____ hereinafter called
Bidder, organized and existing under the laws of or a resident of the State of Michigan, doing business
as _____

*

* Insert as applicable: "a corporation", "a partnership" or "an individual"

TO THE CITY OF LIVONIA, MICHIGAN, hereinafter called OWNER:

The undersigned as Bidder hereby declares: that this Bid is made in good faith without fraud or collusion with any person or persons bidding on the same Contract; that the Bidder has read and examined the Notice to Bidders, Instructions to Bidders, Bid, General Conditions, Supplementary Conditions, Agreement, Forms of Proposal, Bond, Specifications and Drawings, as prepared by the City of Livonia, and understands all of the same; that the Bidder or its representative has made personal investigation at the site and has become fully familiar with regard to the conditions to be met in the execution of this Contract, and the undersigned proposes to furnish all labor, materials, tools, power, transportation, and construction equipment necessary for the construction of the Project and performing related work in full accordance with the aforesaid Contract Documents, including any and all Addenda officially issued, their receipt of which is hereby acknowledged:

Addendum No.

Addendum Date

The work may be awarded per item.

Item No.	Item Description	Complete for the Sum of:
1	Five-year strategic plan for the City of Livonia Library	\$

FEE SCHEDULE

[illegible]

In submitting this sealed bid, it is understood that the City of Livonia reserves the right to reject or accept any or all proposals in whole or in part and waive any irregularities and informalities therein. It is agreed that this bid may not be withdrawn for 120 days from the opening thereof.

Number of days it will take to complete the project upon being given notice to proceed
_____ **DAYS**

The contractor and their sub-contractors agree that they will not discriminate against any employee or applicant for employment, to be employed in the performance of this contract with respect to their hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of their sex or age, except when based on a bona fide occupational qualification, or because of their race, color, religion, national origin or ancestry. (Act 453 P.A. 1976 As Amended) The contractor further agrees that they will take affirmative action to insure that applicants are employed and that employees are treated during employment without regard to age, sex, race, creed, color or national origin. Breach of this contract may be regarded as a material breach of contract.

Bidder will identify business entity as individual, or if doing business under assumed name, indicate assumed name, partnership, (naming partners), corporation, foreign or domestic (naming principal officers), and indicate official capacity of person executing proposal and bid.

Date_____ Firm Name_____
(If corporation, partnership, or assumed name)

Address_____ Signature_____
(Person executing bid and official capacity)

Print Name_____

City _____ State _____ Zip Code _____

Email _____

Phone _____ FAX _____

(Names of Principal Officers and designate
official capacity)

(If partnership or assumed name, indicate
names of owners)

CONTACT PERSON TO WHOM QUESTIONS REGARDING PROPOSAL RESPONSE SHOULD BE DIRECTED:

NAME: _____ **TITLE:** _____

PHONE: _____

EMAIL: _____

To be considered for this project, the following forms must be uploaded to the MITN website (www.mitn.info) in a PDF format. Proposal responses shall include in the following order:

1. Company Overview
2. Form of Proposal Forms
3. Statement of Qualifications
4. Project Approach and Methodology
5. Project Timeline
6. Project Team Information

LIBRARY STRATEGIC PLAN
REFERENCE FORM

COMPANY NAME: _____

Reference Company Name:	
City/State:	
Summary of Work Performed:	
Dates of Work:	
Company Contact Person:	Title:
Phone Number:	Email:

Reference Company Name:	
City/State:	
Summary of Work Performed:	
Dates of Work:	
Company Contact Person:	Title:
Phone Number:	Email:

Reference Company Name:	
City/State:	
Summary of Work Performed:	
Dates of Work:	
Company Contact Person:	Title:
Phone Number:	Email:

**STATEMENT OF QUALIFICATIONS
LIBRARY STRATEGIC PLAN**

Respondents must answer all questions. If more space is needed to complete a question, attach a separate sheet.

Company Name: _____

Address _____

Contact Person: _____ Title _____

Phone No. _____ Email _____

1. Number of years operating under you present name: _____
2. Number of years present owners have owned the company: _____
3. How many years of experience does your company have providing the services specified in the bid documents? _____ years
4. List municipalities/public libraries who the bidder has serviced in the past five (5) years to present:

Name of Municipality	Term of Service

5. General nature of work performed by your company:

6. Have you performed work for the City of Livonia in the last ten (10) years? If so, please specify:

Year of Service	Department Served	Description of Services Provided

7. List the members of the team who will oversee the contract and the roles they will perform.

Name	Title	Role	Years of Experience

8. What challenges to you foresee?

9. What is included in your base price for services? What services will incur additional fees:

COMPANY NAME: _____

CONTRACT

THIS CONTRACT, entered into this 1st day of June, A.D. 20_____, between the CITY OF LIVONIA, hereinafter referred to as the Owner, party of the first part, and _____ hereinafter referred to as the Contractor, party of the second part.

WITNESSETH, that the said Contractor, for the consideration mentioned in the various items set forth below, by these presents does agree that he will furnish all labor, materials, machinery, tools and equipment and do all things necessary for and incidental to the **STRATEGIC PLAN CONSULTING SERVICES FOR THE CITY OF LIVONIA LIBRARY** together with appurtenances thereto, as set forth in certain Instructions to Bidders, Proposal, General Conditions, Specifications, Bonds, Plans, Drawings, and the following documents, all of which are attached hereto and made a part of this agreement:

Per Livonia City Council Resolution # _____

IN CONSIDERATION WHEREOF, said Owner does agree to pay to said Contractor the sum of _____ AND 00/100 Dollars (\$_____), based upon the amounts and sum listed in the Proposal; which is subject, however, to adjustment by reason of any change in, addition to, or deduction from the work, as provided in the General Conditions.

For the faithful performance of all and singular terms and stipulations contained in this agreement, said parties respectively bind themselves, their heirs, executors, administrators, successors and assigns.

IN WITNESS WHEREOF, said parties have this day hereunto set their hands and seals, in triplicate.

CITY OF LIVONIA, Owner

By _____
Maureen Miller Brosnan, Mayor

Susan Nash, City Clerk

Witness

Contractor

Approved:

Director of the Library

Director of Finance

Approved as to form:

Department of Law

Pursuant to Resolution # _____

Adopted by City Council on _____

White Pine Solutions

Email: whitepinesolutions@gmail.com

Website: whitepinesolutions.org

City of Livonia, Michigan Strategic Plan for the Livonia Civic Center Library



White Pine Solutions



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Cover Letter

2

September 27th, 2022

The City of Livonia, Michigan

Livonia Civic Center Library
33000 Civic Center Drive
Livonia, MI 48154

Dear The City of Livonia:

White Pine Solutions is writing to be considered for the Livonia Civic Center Library (LCCL) Strategic Plan 2023-2028. Our team of experts is thrilled to collaborate with you to create a dynamic, innovative, and community-driven strategic plan.

White Pine Solutions delivers customized consulting services to organizations and businesses. We provide guidance on organizational development and offer professional expertise in strategic planning, organizational management, research, data analytics, fundraising, grant writing, and community outreach.

This RFP is seeking a consultant firm to create a five-year strategic plan. Key priorities include community outreach and input, partner collaboration, stakeholder input, methodological design, research and data collection, data analytics, and reporting findings to the LCCL as well as to the public. Our team possesses both the prior experience and skills needed to effectively meet these objectives.

We look forward to sharing our proposal with you. We are available to meet with you at your convenience. Thank you for your consideration.

Thank you,

Jessica M. Felder

President and Primary Contact
White Pine Solutions
322 Crampton Dr.
Monroe, MI 48162

(419) 350-7440

whitepinesolutions@gmail.com

White Pine Solutions offers personalized consulting services for organizations and businesses. We use a data-driven and community-centered approach to identify client needs and create tailored strategies.

Our team of specialists have more than 30 years of combined experience in organizational management and have successfully crafted strategic plans. We specialize in strategic planning, organizational management, research, data analytics, fundraising, grant writing, and community outreach. We will be able to exceed the responsibilities listed in the RFP.

The RFP calls for a consulting firm to facilitate the strategic planning process, establish a methodological approach in line with the needs of LCCL, gather community focused research and data, coordinate input meetings and sessions with interested parties, and identify the current mission and activities. The main objective is to design an inclusive, modern, and community-centered strategic plan.

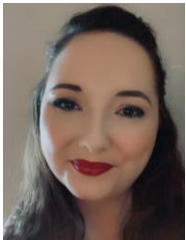
The strategic plan will provide a comprehensive vision for LCCL for the next five years. It will address collections, programming, technology, staffing, outreach, and facilities. Additional themes, include but are not limited to, reaching a wider audience and updating services to match the needs of the larger communities.



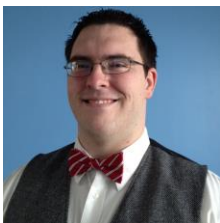
White Pine Solutions

White Pine Solutions was founded by Jessica M. Felder, Trent Varva, and Andrew B. Felder in 2022. Their aim is to offer support and guidance to local organizations and businesses.

Our leadership team has more than 30 years of combined experience in organizational management and have successfully completed a number of strategic plans.



Jessica M. Felder is an Independent Instructor and PhD Candidate of Political Science at Purdue University. She specializes in comparative politics and data analytics. Her professional research focuses on non-profit organizations and funding. Her work here at White Pine Solutions includes strategic plan design and management, data management, database creation, reporting, and grant writing.



Trent Varva is a seasoned field coordinator who has worked with non-profits, municipalities, political parties, and labor to execute coordinated field work in voter outreach for elections, ballot initiatives, recruitment campaigns, and community surveys. He graduated 2014 from Saginaw Valley State University with a degree in Political Science and has worked for multiple organizations all across

Michigan over the last 12 years. His work at White Pine Solutions focuses on strategic planning, community outreach, communication, and grant identification.



Andrew B. Felder is the Director of Community Outreach and Fund Development for the River Raisin Centre for the Arts (RRCA) and is currently serving in his third term on Monroe City Council. He has developed and led organizational recruitment since 2008 and worked with over numerous local leaders to affect positive change in their communities. With a background as a data analyst, Andrew uses practical insights and a data driven approach to provide actionable intelligence to inform both process and operations of funding, recruitment, and electoral campaigns. He offers specializations in fundraising, financial reporting, methodological design, and data analytics.

For More Information

Visit us at whitepinesolutions.org, or find us on social media:



The **White Pine Solutions** team has the credentials and prior experience essential to the strategic planning process.

Jessica M. Felder obtained a formal specialization in Methodology while pursuing a PhD at Purdue University. This included instruction through the Methodological Cluster at Purdue University and courses at the Inter-university Consortium for Political and Social Research (ICPSR) at the University of Michigan Ann Arbor. She is a mixed methods scholar who works with both quantitative (large-N studies/surveys) and qualitative approaches (small-N studies/focus groups/interviews/case studies).

Two current studies include her project on DEI academic success in graduate programs and her research on non-governmental organization management. Through these projects she designed the methodological approaches, developed all methodological tools, received IRB approval, and conducted the data collection.

Jessica will be able to effectively craft a sound methodological approach that is informed by LCCL services, the communities they serve, and interested partners. The approach will incorporate case study research, convenient surveys, focus groups, interviews, and planning sessions. She will assist in carrying out the methodological approach, analyzing the data, and writing the strategic plan.

Trent Varva has engaged in strategic planning for multiple municipalities in the state of Michigan. He worked with Bay City, MI to evaluate the city services. This included survey design, compiling data, and supplemental external research. This culminated in a report outlining public opinion on city services and next steps for the city.

Trent has worked on strategic planning for the City of Saginaw evaluating existing operations. He participated in strategic planning sessions with council members and senior staff. Feedback from participants was used to compile report that identified common strengths and weaknesses across various departments and areas where staff saw lack of resources. External research was used to propose

solutions and develop a six-month, twelve-month, two-year, and five-year action plans.

Trent will focus on research of the LCCL communities and LCCL services. This work will inform the methodological approaches used. He will assist with designing the survey instruments, interview questions, and session planning organizing. He will take the lead on data collection and compilation. Finally, he will use his extensive knowledge and expertise to inform the strategic plan.

Andrew B. Felder specializes in recruitment, outreach, and data analytics.

Community engagement is critical within his roles as a City Council Person and as the Director of Community Outreach and Fund Development. He regularly collaborates with community businesses, organizations, and people. He will assist in all outreach efforts, recruitment for the LCCL strategic plan study, and be the point of contact for all invested partners. This includes the LCCL stakeholders.

Andrew has formally studied data analytics and has used this as a financial data analyst at Ford. He uses his statistics and technological skills to craft databases, clean data, run predictive modeling, and create reports on his crucial findings. He will assist with the data collection, analytics, and reporting process.

Strategic Plan

Phase One: Project Initiation

Objectives	Duration	Activities
Set up communication channels, make formal introductions, and set a working calendar.	2 Weeks	Set-up lines of contact.
		Reach out to affected parties for introductions.
		Review internal documents on structure and organization.
		Establish communication with all key stakeholders.
		Create a meeting schedule and calendar.

Phase Two: Initial Research

Objectives	Duration	Activities
Conduct thorough and comprehensive research on the library system and the broader community to build a community profile.	3 Weeks	Review internal data, metrics, programs, users, and processes.
		Review current organizational structure.
		Review current mission statement, values, and goals.
		Research the served communities including their growth and demographics.
		Facilitate planning meetings with staff, board, and public.
		Set core values statement, goals, and objectives.

Phase Three: Refine Methodological Design

Objectives	Duration	Activities
Utilize initial research and input (community/library/partner/etc.) to refine our approach and develop methodological instruments.	2 Weeks	Collaborate with any Strategic Planning Committees and key stakeholders.
		Meet with community members (user/nonusers), library staff and personnel, partners, and stakeholders for input.
		Conduct focus groups to gather input on survey and interview design.
		Facilitate initial public input session.
		Develop focus group, interview, survey design.

Phase Four: Methodological Deployment

Objectives	Duration	Activities
Deploy approaches, meet with stakeholders, and data collections. The goal is to assess the current library services while focusing on community needs.	2 Months	Focus groups with library staff and personnel. Assess the current services and their vision for the library.
		Focus groups with users to determine potential service expansions.
		Focus groups with nonusers to determine needs and wants of the community.

		Create a robust survey (for users and non-users). This will be available for multiple platform deployment. This includes physical copies within the libraries, and a virtual survey. The virtual survey will be available for QR Code deployment, and released through email, online, and on social media.
		Virtual/Phone based interviews with individual stakeholders
Phase Five: Data Analysis and Review		
Objectives	Duration	Activities
Prepare, review, and analyze the data. Develop initial findings regarding the library, its service model, and community needs. Prepare draft plan for the LCCL Board prior to annual budgetary meetings in January and February.	1 Month	Create database with all data collected.
		Data analytics – statistical analysis and content analysis.
		SWOT Analysis.
		Meet with the board, staff, and stake holders to review initial findings. Meet with any Strategic Planning Committee to review initial findings.

		Collaboratively create goals, objects, and service priorities. Create alternatives and recommendations with regards to each service model category.
		Establish core values in coordination with LCCL key stakeholders.
		Create the Draft Strategic Plan. Include initial projected budgetary items for consideration.

Phase Six: Craft Strategic Plan and Deliverables

Objectives	Duration	Activities
Prepare the Strategic Plan, requested deliverables, and develop KPIs for the library.	2 Months	Prepare the final Strategic Plan informed by the data collection and research process. - Project summary including scope and intended audience - Community profile - Library environment assessment - Mission and core values statement - Strategic work plan including the key priorities, goals, and objectives. Additionally, a comprehensive list of recommendations and alternatives, a list of actionable steps, and KPIs to measure progress. - A process for library review for the duration and conclusion of the strategic plan.
		Deliver the strategic plan to the required parties and the LCCL key stake holder.

Phase Seven: Submission of Deliverables

Objectives	Duration	Activities
Deliver all final documents and deliverables.	1 month	Review and use feedback to improve the final version.
		Create final Strategic Plan and the Strategic Plan Snapshot.
		Submit all final deliverables.

White Pine Solutions will be able to carry out a majority of the functions needed for this RFP. We will also work closely and collaboratively with the library board, staff, personnel to ensure success. We will cooperate and coordinate with the stakeholders, library partners, and the community at large.

There are two key areas where library assistance would be beneficial:

- (1) Within Phase Two, (the research phase) we would appreciate a detailed summary of the library collections, its strengths and weaknesses, and what areas could be bolstered.
- (2) Within Phase Four, (the deployment phase) we would like the library staff and personnel to assist in survey disbursement at both library locations. This would include knowing where to find the surveys, informing all guests of the survey, and answering questions that may arise.

Cost Schedule

Cost Schedule					
Phase	Objectives	Approximate Consultant Hours	General Cost	Community Outreach Cost	Total Fee
Phase One: Project Initiation	Set up communication channels, make formal introductions, and set a working calendar.	20 Hours	\$800	\$300	\$1,100
Phase Two: Initial Research	Conduct thorough and comprehensive research on the library system and the broader community.	60 Hours	\$1,500	\$1,500	\$3,000
Phase Three: Refine Methodological Design	Utilize initial research and input (community/library/partner/etc.) to refine our approach and develop methodological instruments.	60 Hours	\$2,000	\$1,500	\$3,500
Phase Four: Methodological Deployment	Deploy approaches, meet with stakeholders, and data collections. The goal is to assess the current library services while focusing on community needs.	20 Hours	\$500	\$700	\$1,200
Phase Five: Data Analysis and Review	Prepare, review, and analyze the data. Develop initial findings regarding the library, its service model, and community needs. Prepare draft plan for the LCCL Board prior to annual budgetary meetings in January and February.	40 Hours	\$2,000	\$0	\$2,000
Phase Six: Craft Strategic Plan and Deliverables	Prepare the Strategic plan, prepare requested deliverables, and develop KPIs for the library.	60 Hours	\$3,000	\$500	\$3,500
Phase Seven: Submission of Deliverables	Deliver all final documents and deliverables.	10 Hours	\$500	\$0	\$500

Cost Schedule Totals

Approximate Consulting Hours	270 Hours
General Cost	\$10,300
Community Outreach Cost	\$4,500
Total Fee	\$14,800

Should the LCCL wish to expand or enhance the services provided, we would be willing to add these services for an additional agreed upon cost.

Such services could include, but are not limited to:

1. Expansion of non-user survey with an increased survey response rate
2. Virtual/Phone based interviews with regional, municipal, developmental, business, entrepreneurial, service, and non-profit organizations.
3. Crafting deployable review instruments for the LCCL (user surveys, etc.).
4. Preparing and delivering strategic plan presentations.
5. Preparing and delivering educational strategic plan presentation for the community.
6. Assisting with the initial phases of the strategic plan including establishing communication procedures and facilitating initial meetings.

Personnel References

1. Dr. Patricia Boling

Purdue University
765 – 491- 1175
boling@purdue.edu
Research Supervisor
-For Jessica Felder

2. Annie Boensch

Saginaw City Council
989 – 493 – 8232
aboensch@saginaw-mi.com
City of Saginaw Strategic Plan
-For Trent Varva

3. Kellie Vining

Monroe City Council
734 – 819 – 7676
Kellie.vining@monroemi.gov
Orchard East Subarea Plan
-For Andrew Felder

Acceptance

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The White Pine Solutions team is prepared to provide any additional information or paperwork needed including insurance paperwork. We are able to offer a proposal presentation at your convenience.

Please don't hesitate to reach out to the White Pine Solutions team with any questions, comments, or concerns.

Thank you,



White Pine Solutions



July 8, 2021

Mr. Michael Slater
Finance Director
City of Livonia

RE: Alfred Noble Library Opinion of Costs

Dear Mr. Slater:

In May 2021, OHM Advisors visited the Alfred Noble Library building and completed a walkthrough with City staff. The City of Livonia previously closed the Library in December 2019, due to moisture problems. The purpose of the visit was to review the current condition of the facility and provide the City with our professional opinion of costs for various options the City is currently considering. Additionally, the building assessment report completed by City Inspector Jerome Hanna as well as the limited moisture and microbial assessment report by MQI was provided to us. This information along with original building drawings were utilized to develop three conceptual opinion of costs requested by the City for their use.

Background and Summary

In October, 2019 a limited moisture and microbial assessment was completed by Mold Quest International. With several areas of water infiltration in the building, this assessment provided recommendations based on their limited testing as noted in the report. This report provided several remediation recommendations to be completed at the library. In December of 2019 the library was closed due to these findings and recommendations. Building systems were limited to provide a conditioned space. In March of 2021, a visual inspection of the building was completed by City Inspector Jerome Hanna which identified additional areas of work that should be addressed pertaining to water infiltration, water damage, and microbial growth.

In May 2021, city staff and OHM walked the building to review the current condition of the building and had additional discussions regarding the building condition. These items, as well as the information from previous report findings, were utilized in preparing a high-level conceptual cost analysis for repair work identified in the scope of work assumed below for the building. Additionally, OHM developed a cost opinion to demolish the building and prepare a clean site as well as a cost opinion for a new building of comparable size, use and materials. Below is a summary of these three approaches and associated costs:

Option	Description	Cost
1	Building/Site Demolition	\$ 246,000
2	Building Renovation and Site Improvements	\$ 1,620,000
3	New Building	\$ 6,430,000

A further breakdown of the above costs, including general construction, contingency, design fees, and contractor fees are outlined below in the Opinion of Cost section.

The following lists and photos are references, and provide explanation of the scope of work assumed to be included as part of a possible renovation project:



Exterior

1. Removal and replacement of asphalt shingles – include removal of deteriorated wood decking and replace flashing.
2. Removal and replacement of membrane roofing – provide additional taper and improved drainage, additional provide required minimum flashing heights at perimeter conditions.
3. General tuckpointing of masonry
4. At basement footprint, remove soils at exterior down to foundation and provide new waterproofing.
5. Window seal replacement
6. Re-grading perimeter to provide positive drainage away from building
7. Relocate roof downspout discharges away from building.



Roof ponding, little/no positive slope to scuppers



Roof ponding, little/no positive slop to scuppers. Less than minimal flashing height at transition to roof, failed flashing sealant.



Miscellaneous brick repairs (tuckpointing), miscellaneous general window sealant failures as well as interior wood moisture issues noted in report



Reinstall proper termination of downspouts, regrade low spots that have settled due to water.



Interior

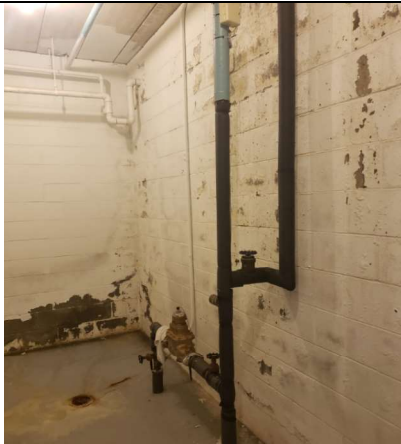
1. Remove and replace drop ceiling tiles
2. Remove and replace wall and door trim
3. Remove and replace drywall – at both walls and ceilings where water damaged.
4. Remove and replace carpeted flooring areas
5. Clean and repaint CMU Block walls
6. Remove and replace any cavity insulation.
7. Replace furnishings
8. Cleaning of entire space to remain – damp wipe and/or HEPA vacuum.
9. Clean HVAC systems and replace filters.
10. Electrical devices, fixtures, or wiring that has been in contact with water should be replaced.



General interior conditions:



Lay-in ceiling, various areas of water damage



Basement, interior wall paint flaking and water infiltration from exterior.





Additional items noted/discussed follow and are considered part of renovation opinion of cost:

1. Replace furnace, it is original to the structure and past its life span.
2. Current restrooms do not provide ADA Accessible fixtures.



Opinion of Cost

Of recent, the current market has been volatile and ever changing as it relates to construction costs. With cost of materials availability and long lead times, labor, and unknown factors, the following opinion of costs have taken into consideration higher than normal contingency value as well as included an escalation markup for both materials and an estimated construction time from starting end of 2021 at the earliest. If additional years are considered, there should be escalation costs added to these numbers between 3-4 annually%.

Demolition of existing building and site clearing

The opinion of cost for demolition of existing building includes demolition of entire building, removal of foundations and infill at basement area, sidewalks and site garden areas to be removed, general infill grading and seeding of area. Parking lot to remain.

No	Description	Cost
1	Building demolition	\$ 135,000
2	Basement demo and infill	\$ 28,000
3	Site	\$ 27,000
4	Subtotal	\$ 190,000
5	Contingency (10%)	\$ 19,000
6	Escalation (4%)	\$ 8,000
7	Testing (5%)	\$ 10,000
8	General Conditions/OH&P (10%)	\$ 19,000
10	Total	\$ 246,000

Renovation of existing building and site improvements

The opinion of costs includes items noted above. Additionally, we have included a 30% contingency with type of renovation work being performed and possible mitigation required as additional areas/materials are exposed. We have also included a 7% contingency that is reflective of the current market conditions for material costs, this could be an anomaly that levels off or maintains itself as a new norm. A testing allowance of 6% is included due to further



assessment of material abatement and existing conditions of materials that should be re-tested as work is completed to confirm all work has been done correctly.

No	Description	Cost
1	Building Renovations	\$ 700,000
2	Site work	\$ 35,000
3	Furniture	\$ 250,000
4	Subtotal	\$ 985,000
5	Contingency (30%)	\$ 296,000
6	Escalation/Material Contingency (7%)	\$ 69,000
7	Testing (6%)	\$ 59,000
8	General Conditions/OH&P (10%)	\$ 100,000
9	Professional Fees (12%)	\$ 111,000
10	Total	\$ 1,620,000

New building of similar size and function

The new building cost includes cost for a new 13,500 SF building on a green site.

No	Description	Cost
1	Building	\$ 3,700,000
2	Site work	\$ 550,000
3	Furniture	\$ 250,000
4	Subtotal	\$ 4,500,000
5	Contingency (15%)	\$ 675,000
6	Escalation/Material Contingency (7%)	\$ 315,000
7	Testing (2%)	\$ 90,000
8	General Conditions/OH&P (10%)	\$ 450,000
9	Professional Fees (9%)	\$ 400,000
10	Total	\$ 6,430,000

If you have any questions or want to discuss any items in more detail, please do not hesitate to call to review further.

Sincerely,
OHM Advisors



Christopher Ozog, Project Architect

Encl: MQI Report dated October 14, 2019
Building Assessment report dated March 8, 2021

cc: Rhett Gronevelt, OHM Advisors
Jerome Hanna, City of Livonia

Regular Meeting Minutes of February 24, 2025

On a motion by Council President McCullough, supported by Councilmember Budzinski, and unanimously adopted, it was:

#54-25 RESOLVED, that upon the motion by Council President Brandon McCullough, seconded by Councilmember Carrie Budzinski, at the Regular Meeting held February 24, 2025, the Council does hereby direct the Administration to procure the services of a qualified and licensed civil engineer who will conduct a structural assessment of the Noble Building and issue a stamped report to council within 60 days of the date of this resolution for an amount not to exceed \$20,000.00; FURTHER, the Council does hereby authorize an expenditure in an amount not to exceed \$20,000 from funds budgeted in Account No. 401-000-971-000 for Council initiatives.

<i>RESOLUTION REQUESTED BY COUNCIL (Regular Meeting of February 24, 2025)</i>

Motion:	McCullough
Second:	Budzinski
Ayes:	Toy, Donovic, Ptashnik, Budzinski, Scheel, Morgan and McCullough
Nays:	None
Absent:	None



LETTER TO THE LIVONIA CITY COUNCIL

Mayor's Office
February 6, 2025

MEETING DATE

R022425

PRESENTED BY

AGENDA ITEM

a. ADMINISTRATIVE RESPONSE TO CR 177-24: Office of the Mayor, re: the maintenance of the Noble Library property to prevent further deterioration (CR 116-24 and CR 354-24).

BACKGROUND DETAILS

Honorable Members of the City Council, City of Livonia
RE: Maintenance Update on Noble Property

Dear Council Members:

I am herewith submitting to you the attached Maintenance Update on Noble memo, dated February 6, 2025, in response to CR 177-24, CR 116-24, and CR 354-24. Please receive and file.

Sincerely,
Maureen Miller Brosnan, Mayor

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

n/a

ATTACHMENTS

1. Noble Property Maintenance Update 2-06-25 PDF

APPROVED BY

Handwritten signature of Debra A. Lichtenberg.

Debra Peck Lichtenberg, CPA, Finance Director

Date: February 07, 2025

Handwritten signature of Maureen Miller Brosnan.

Date: February 07, 2025

Maureen Miller Brosnan, Mayor

OFFICE OF THE MAYOR

MAUREEN MILLER BROSNAN
MAYOR



33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3097
mayor@livonia.gov
(734) 466-2201

February 6, 2025

To: Livonia City Council
RE: Maintenance Update on Noble Property

As you are aware, funds are not currently available to put the Alfred Noble structure into a usable condition resulting from the mold damage created by water intrusion in the building. The property was vacated in October of 2019 and declared unsafe for occupancy by building officials in January of 2020.

In keeping with CR 116-24, which directed the Administration to maintain the Noble property and prevent further deterioration, we are providing an updated summary of the workplan we are using during this period of deactivation.

In general, you will notice the site is no longer referred to as a library because the Livonia Library Commission requested the site be decommissioned for library services (Resolution #16-24). Therefore, the oversight and maintenance of the building and property was transferred to the Department of Public Works on June 20, 2024.

The following steps have been taken as part of the continued monitoring and maintenance plan for the site:

1. Securing the building against unauthorized entry and vandalism

All doors and windows have been secured. There have been no new incidents of anyone entering the premises unauthorized since our last report to Council on September 19, 2024 (see attached). We do not believe there is currently a need for any additional barricading of doors and windows. Should there be further unauthorized entry, barricading may be necessary.

To further prevent the need for barricading, DPW has removed all signage on the site. That includes all directional signage, book return and entrance signage, and the wooden sign facing Plymouth Road. The Council was notified this would be taking place in the September 19, 2024, memo. The only signage which remains is that which is attached to the building itself. Should the building suffer additional unauthorized entry or vandalism, further consideration will be given to removing the wall signage.

The Council is aware of reports of unauthorized people trespassing on the exterior of the building, climbing on ladders to access the roof and gutters, trimming trees, posting signs and graffiti, and other unauthorized activities identified in the September 19, 2024, communication. To address this issue, “No Trespassing” signs are being installed outside the building.

2. Securing driveway/parking lot access

The parking lots on the site are no longer needed to serve library patrons; nor are they needed to serve park patrons in the winter. As such, they are closed from November to April and are not being plowed by the City. Class 3 barricades were installed in late November and will remain until April to assure the public knows they can’t use the parking lots, and to make it clear the City is not spending resources clearing snow or treating ice on parking lots for a closed building. These barricades were installed in accordance with the Michigan Manual of Traffic Control Devices. However, in deference to community requests, the “Road Closed” wording on the barricades was removed.

3. Sufficiently maintaining the property around the building

As noted in the September 19, 2024, memo to Council, DPW continues to monitor and maintain the exterior of the property consistent with citywide maintenance schedules. This includes cutting the grass as needed and maintaining exterior landscaping. Should maintenance of the landscaping become problematic or costly, consideration will be given to removing the landscaping closest to the building.

4. Conducting regular inspections

Interior walk-throughs continue to be conducted by DPW staff, wearing personal protective equipment on a quarterly basis. Any major building changes or deteriorations are reported to Director Don Rohraff.

5. Current building conditions

The building has been winterized and the pipes drained. Therefore, no heating or cooling is necessary. The electricity is on. The sump pump is not working, and there are several inches of water in the basement. Given that the electrical panel is in or near the water line, there are safety concerns with inspecting the basement.

6. Obtaining an estimate to address water intrusion issues

DPW staff are attempting to address the standing water and sump situation by turning off the electricity and examining the basement. However, due to the high water table and history of water intrusion in the building, our DPW team believes any remediation would be only temporary.

A long-term solution would require replacing the aging roof on the building and/or attempting to waterproof the basement walls. It is unlikely that the \$20,000 the Council has allocated (per CR 354-24) for "Council initiatives related to Noble/Shelden Park issues" would pay for either of these remedies.

The Administration is prepared to send a request for proposals to determine the cost of conducting a building condition assessment, or to investigate the cost of re-roofing and/or waterproofing the foundation, should the Council approve a resolution to initiate one of those actions.

However, we advise against any of those proposals given the age, history and current lack of activity in this building.

Please let me know if you have any questions and thank you for your continued support.

Sincerely,

A handwritten signature in black ink that reads "Maureen Miller Brosnan". The signature is written in a cursive, flowing style.

Maureen Miller Brosnan
Mayor

Regular Meeting Minutes of October 21, 2024

On a motion by Councilmember Budzinski, supported by Councilmember Jolly and unanimously adopted, it was:

#354-24 RESOLVED, that upon the motion by Councilmember Carrie Budzinski, seconded by Councilmember Jim Jolly, at the Regular Meeting held October 21, 2024, the Council does hereby amend the proposed FY 2024-2025 Annual Budget and allocates \$20,000.00 from the unexpended fund balance to the 401-Capital Projects Fund for Council initiatives related to Noble/Shelden Park issues.

Christopher Martin, resident, spoke in opposition to spending money on the Noble Library Building.

Cindy Fleming, resident, spoke in favor of keeping the Noble Library building due to the architecture.

Regular Meeting Minutes of May 20, 2024

On a motion by Councilmember Jolly, supported by Councilmember Toy and unanimously adopted, it was:

#177-24 RESOLVED, that having considered the report and recommendation of the Committee of the Whole, dated April 3, 2024, submitted pursuant to Council Resolution 116-24, regarding the subject matter of the Noble Library and Sheldon Park issues, the council does hereby authorize the Administration to maintain the Noble Library property so as to prevent further deterioration.

<i>UNFINISHED BUSINESS ITEM 15b. (Regular Meeting of May 20, 2024)</i>
--

Motion:	Jolly
Second:	Toy
Ayes:	Morgan, Toy, Jolly, Budzinski, Ptashnik, Donovic, McCullough
Nays:	None
Absent:	None

Regular Meeting Minutes of March 20, 2024

President McCullough relinquished the chair to Vice President Ptashnik at 7:55 p.m.

On a motion by President McCullough, supported by Councilmember Budzinski and unanimously adopted, it was:

#116-24 RESOLVED, that upon the motion by Council President Brandon McCullough, seconded by Councilmember Carrie Budzinski, at the Regular Meeting held March 20, 2024, the Council does hereby refer the subject matter of the Noble Library and Sheldon Park issues to the Committee of the Whole for its report and recommendation.

Cindy Fleming, resident, spoke in favor of Noble Library and Sheldon Park being put in Committee of the Whole.

Steve Alexander, 9919 Deering, is appreciative of the motion. He would also like further consideration given to Plymouth Road, as part of the Livonia Vision 21.

<i>RESOLUTION REQUESTED BY COUNCIL PRESIDENT BRANDON MCCULLOUGH (Regular Meeting of March 11, 2024)</i>
--

Motion:	McCullough
Second:	Budzinski
Ayes:	Jolly, Ptashnik, Budzinski, Morgan, Toy, McCullough
Nays:	None
Absent:	Donovic



LETTER TO THE LIVONIA CITY COUNCIL

1.

Council Office
June 23, 2025

MEETING DATE

COI070925/R072125

PRESENTED BY

AGENDA ITEM

The subject matter of the planning, design and construction of the new Civic Center Campus. (CR 330-24)

BACKGROUND DETAILS

At the Regular Meeting of April 14, 2025:

Councilmember Donovic reported on the COI meetings of March 12 and April 2, 2025 on the subject of planning, design and construction of new Civic Center Campus.

At the Regular Meeting of February 10, 2025:

Councilmember Donovic reported on the COI meetings of January 22 and February 5, 2025 on the subject of planning, design and construction of new Civic Center Campus.

At the Regular Meeting of December 18, 2024:

Councilmember Donovic reported on the COI meeting of December 11, 2024 on the subject of planning, design and construction of new Civic Center Campus.

At the Regular Meeting of November 6, 2024:

Councilmember Donovic reported on the COI meeting of October 14, 2024 on the subject of planning, design and construction of new Civic Center Campus.

At the Regular Meeting of October 7, 2024:

#330-24 RESOLVED, that upon the motion by Councilmember Rob Donovic, seconded by Council Vice President Martha Ptashnik, at the Regular Meeting held October 7, 2024, the Council does hereby refer the subject matter of the planning, design, and construction of the New Civic Center Campus to the Capital Outlay and Infrastructure Committee for its report and recommendation.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

To discuss the subject matter as presented.

ATTACHMENTS

1. COI070925 Central ParkPlaza Renderings Recd 06-26-25
2. COI040225 Minutes - RD
3. COI040225 Livonia Vision 21 - Financing Discussion AS PRESENTED

4. COI040225 Ballot Language - DRAFT ONLY
5. COI031225 Minutes - RD
6. COI031225 City Center Community Presentation 3-12-25
7. COI020525 Minutes - RD
8. COI020525 - presented at COI020525
9. Senior Wellness Center - Update presented at COI020525
10. COI012225 Minutes
11. COI012225 Technolgy Consulting Services_Contract Award Recommendation Letter
12. COI012225 LCCP_Tech Consultanting Services_Proposal and CBS Summary
13. R121824 FRS new Livonia City Hall CR 432-24
14. R121824 Hobbs + Black new PD CR 433-24
15. COI121124 20241206_LCCP_Police Station_AE_Contract Award Recommendation Letter
16. COI121124 20241206_LCCP_City Hall_CM_Contract Award Recommendation Letter
17. R102124 (X1) CE w proposed conctract res - New Data recd 10-21-24
18. R102124 (X1) ProfSurvey w proposed contract res - - New Data recd 10-21-24
19. R102124 (X1) HED - Master Plan w proposed contract res - New Data recd 10-21-24
20. COI101424 Minutes
21. COI101424 LTC plan design construction of CC Campus
22. COI101424 Email RE_Award Recommendation Letters and Proposal Summaries
23. COI101424 LCC_City Hall_AE_Contract Award Recommendation Letter_AE- Updated
24. COI101424 LCC_Contract Award Recommendation Letter_CE-Updated
25. COI101424 LCC_Contract Award Recommendation Letter_MP- Updated
26. COI101424 LCC_Survey_Contract Award Recommendation Letter- Updated
27. COI101424 LCC_Traffic Study_Contract Award Recommendation Letter- Updated
28. R100724 Subject matter of plan, design, and construct New Civic Center Campus CR 330-24

APPROVED BY





ROBERT & JANET BENNE LIBRARY

ROBERT & JANET BENNETT LIBRARY



**CAPITAL OUTLAY AND INFRASTRUCTURE COMMITTEE MEETING
WEDNESDAY, APRIL 2, 2025
7:00PM**

A Capital Outlay and Infrastructure Committee meeting was held on Wednesday, April 2, 2025, in the Livonia City Hall Auditorium.

Committee Members Present: Robert Gjonaj Donovic, Chair
Martha Ptashnik, Vice Chair

Committee Members Absent: Carrie Budzinski, Member (Excused)

City Council Members Present: Brandon McCullough, President
Lynda L. Scheel

**City Officials
and Others Present:** Maureen Miller Brosnan, Mayor
Carter Fisher, City Attorney
Dave Varga, Chief of Staff
Debbie Lichtenberg, Finance Director
Mark Taormina, Planning and Economic Development Director
Ted Davis, Superintendent of Parks and Recreation
Thomas Goralski, Police Chief
Robert Jennison, Fire Chief
Kristen Edson, Library Director
Plante Moran Realpoint Representatives
HED Representative, Master Planner & Architect
Frank Rewald and Sons, Construction Manager

1. The subject matter of the planning, design and construction of the new Civic Center Campus. (CR 330-24)

The meeting was convened at 7:02 PM.

The meeting began with a discussion of the following:

- Mayor started meeting with a presentation of the Civic Center Project
- Ballot proposal would be August 5th if the Council approves Ballot language
- In 2017, Livonia started talking about a downtown in Livonia Vision 21 and was drafted by hundreds of residents and officials. The Civic Center proposal is not new, this stems from Vision 21, which the Council approved in 2021
- Roughly 97 million dollars in deferred maintenance and general upkeep/ updates to city buildings
- Phase 1 was to relocate Senior Center, which was primarily funded by Federal, State, and the County, all of which wanted to specifically fund a Senior Center project
- Phase 2 is to build City Hall and Library. Currently is roughly 97,000 sqft, the city only needs roughly 55,000 sqft. Civic Center Library is roughly 72,000 sqft, we only need roughly 50,000 sqft. These numbers come from the Space Needs Assessment conducted by Plante Moran Real Point, our real estate advisor, working with Department Heads and respective staff.
- Phase 3 is constructing a new Police Department, renovations to 5 Fire Stations, construct Civic Center Campus for infrastructure, park and gathering area
- Building a connected greenway and central gathering area which is roughly 2 acres that will host concerts and other activities
- The last municipal millage was passed by voters in 1999, for the Jack E. Kirksey Recreational Center
- Phase 4 would be the private development portion of the project, built and funded by the private business community. The city is not paying for the private development.
- The city is asking for a 150-million-dollar millage to fund the Civic Center Campus improvements
- This bond would be paid over 25 years and be borrowed in 2 series or draws
- 50% of residential homes would pay roughly \$12 a month
- 85% of residential homes would pay roughly \$18 a month
- 55% of commercial buildings around 350,000 taxable values would pay roughly \$42 a month
- 85% of commercial buildings around 1 million taxable values would pay roughly \$120 a month
- There was conversation around renovating existing Civic Center library compared to constructing a new Civic Center Library and those pros and cons
- Relocating and combined the library energizes the entire Civic Center Campus
- The public can go online to LivoniaBuilt.org
- The city can refinance the bond after 10 years, depending on rates

The meeting adjourned at 9:26 PM.

The Committee recommends:

- The Administration to formally present the item to the City Council

Note: This item will remain in Committee for further discussion.

This meeting will be reported at the **Regular Meeting of April 14, 2025.**

A handwritten signature in black ink, appearing to read 'R. Gjonaj-Donovic', written over a horizontal line.

Robert Gjonaj-Donovic, Chair

CAPITAL OUTLAY & INFRASTRUCTURE COMMITTEE MEETING
WEDNESDAY, APRIL 2, 2025, 7:00PM

NAME

DEPT OR CONTACT INFO FOR NOTIFICATIONS*
*PERTAINING TO THE SUBJECT MATTER OF THIS MEETING

Denise Mika

Jim Biga

Mary Kay Heidtke

DAVID CORDS

Jennifer Blaisden

Lauren Ladd

PATRICIA JASON

DANIEL JASON

Barbara Glower

Andy Fleming

Sandra + Ken Moore

Gerald Karasinski Jr.

Jenny O'Connor

Alex King

Justin Gabel

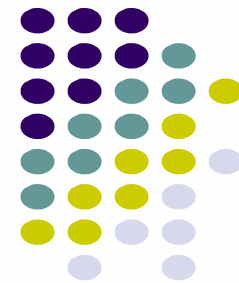
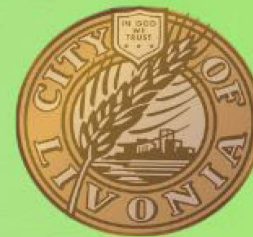
Lynn Miller

Deb Christensen

Kathleen Jorgensen

Eileen McDonnell

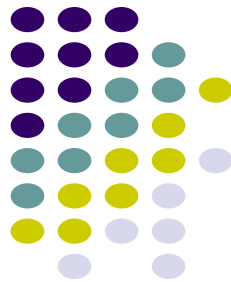
TOGETHER WE BUILD TOMORROW



DEFINING THE CHALLENGE

In 2017 thousands of Livonia residents came together around a problem

Livonia's population was decreasing.

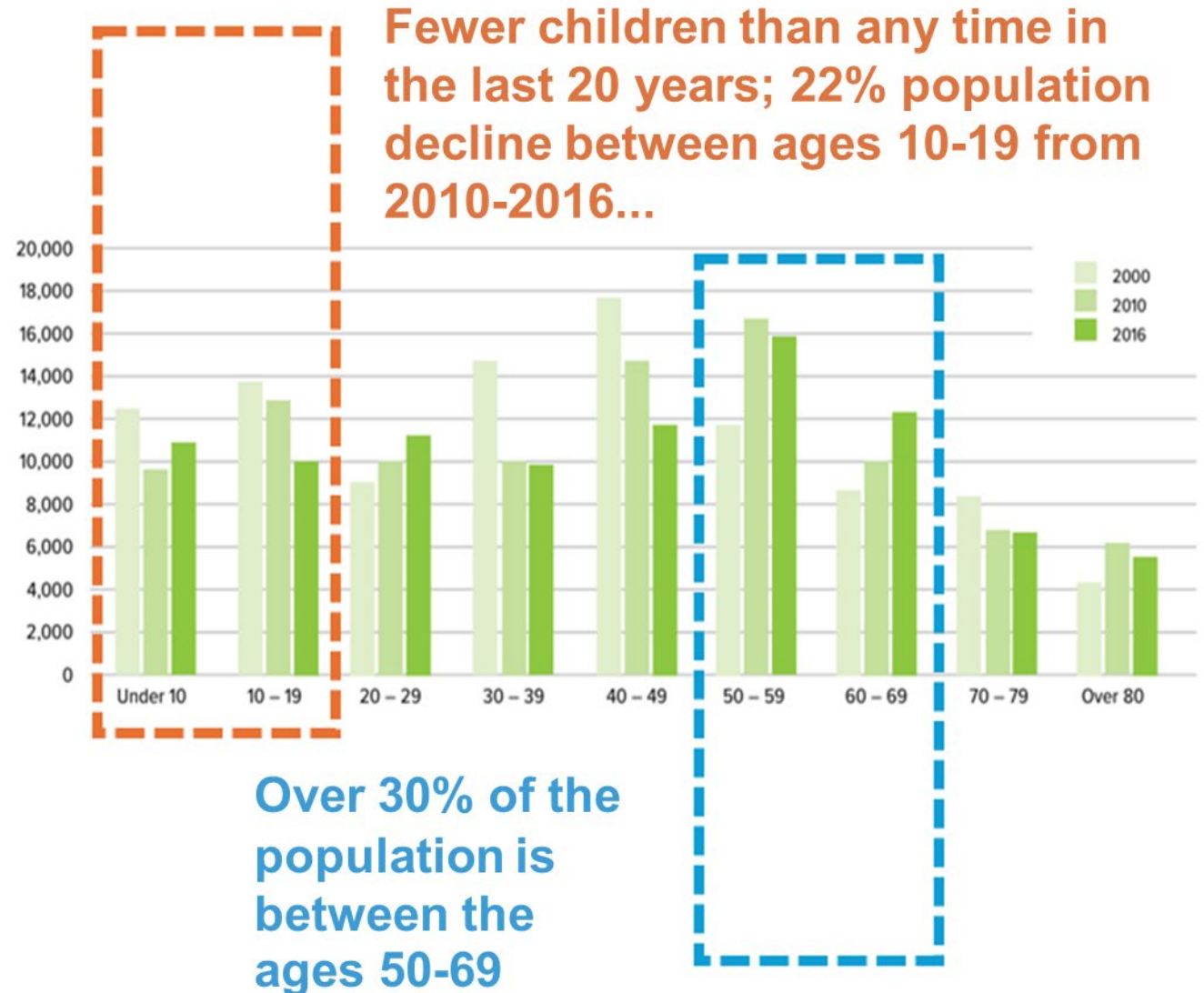


Livonia	-2.8%	(2,747 residents)
Plymouth Twp.	+0.2%	(+42)
Northville Twp.	+7.9%	(+2,253)
Canton Twp.	+4.0%	(+3,618)
Farmington Hills	-0.3%	(-243)
Lyon Twp.	+28.6%	(+4,163)
All of Wayne County	-1%	(-8,244)

DEFINING THE CHALLENGE

...while at the same time the age of our population was increasing.

The **median age** of residents is 44.7 years old, an increase from 40.2 years old in 2000.





\$107 million
required repairs and maintenance

[ca 1967]

New City Hall for Livonia

By JOHN J. CAMPER

Detroit News Metropolitan Bureau

LIVONIA — Construction should begin next year on Livonia's new city hall.

The building, expected to be at least five stories high, will be built behind the police station and water department buildings, immediately south of Five Mile and east of Farmington road.

It is to be the focal point of an ambitious civic center plan drawn by the city's planning department.

The civic center scheme, which will be released within a few weeks, will include a city hall, courthouse, auditorium and convention center. There are provisions for hotels and high-rise apartments.

THE CITY'S Municipal Building Authority recently hired the architectural firm of Alden B. Dow Associates Inc., of Midland, to design the city hall.

The firm will begin interviewing city department heads next week to determine space needs.

Harvey C. Allison, vice-president of the firm, said the architects should have schematic drawings of the city hall ready this summer.

The new building actually will be owned by the Municipal Building Authority, which technically is not part of the city government.

The authority will sell 40-year bonds to finance the city hall. It will then rent the building back to the city at a rental rate sufficient to cover interest and principal on the bonds.

WHEN THE BONDS have been paid off through the rental, the building will become the city's property.

The advantage of this type of financing is that the city could raise property taxes to pay the rent without a vote of

the people, said David L. Jones, chairman of the authority.

After the architect has placed a price tag on the building, it probably will take about six months to get approval of the bonds from the state's Municipal Finance Commission, Jones said.

If everything goes according to schedule, Jones said, the building could be completed in about three years.

Dow officials are refraining from estimating cost or size of the new building until their needs studies are complete.

BUT BY COMPARISON, the firm designed a seven-story, \$2.5-million city hall for Ann Arbor, which was completed in 1953. Ann Arbor has an estimated population of 95,000, including 32,000 University of Michigan students. Livonia's population is about 100,000.

The Dow firm was chosen over 11 others, Jones said,

because of its extensive experience in designing high-rise buildings.

It designed the Matthai Recreation Building and the student center at Wayne State University and the U-M's Institute of Social Research and botanical gardens at Ann Arbor.

Dow agreed to do the initial work and schematic drawings for a fee of not more than \$12,000. If the building plans are approved by the city council, Dow will receive a percentage of the building costs.

Livonia's city offices are located in a half-dozen buildings scattered along Farmington and Five Mile. The present city hall probably would become part of the city's library system when the new building is complete, Jones said.

SINCE LIVONIA is expected to reach a population of 175,000 by 1985, one of Dow's major headaches will be pro-

viding for expansion of city offices.

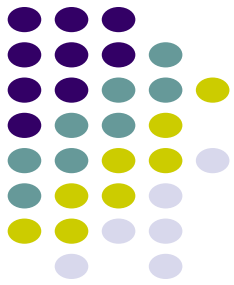
City officials had advised against incorporating courtrooms into the city hall, since Livonia's municipal court may be replaced by a district court under the state constitution's proposed judicial reorganization.

But Allison suggested letting the court use the new building "until 1973 or so. Then it could go into a separate court building and expanding city offices could take over the space the court vacated."

A suggestion that the plans provide for additional floors at a later date was rejected by Alden B. Dow, president of the firm, as "an awkward thing to do gracefully."

But Jones has suggested building the building several stories higher than presently needed and renting the vacant floors to private firms. The firms could be asked to leave as the city needed extra space.

Alden B. Dow Archives
315 Post Street, Midland, MI
Copied for reference only.
Copyright restrictions apply.



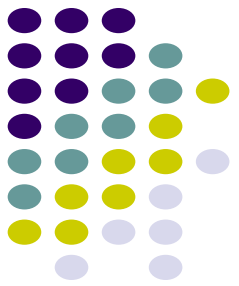


70%

of Livonia
residents want a
**CITY
CENTER**

Based on the 2024 Livonia Community
Satisfaction Survey of ~4000 Livonia residents

Livonia











AUTHENTIC MOVES / Be the center of a connected, healthy community



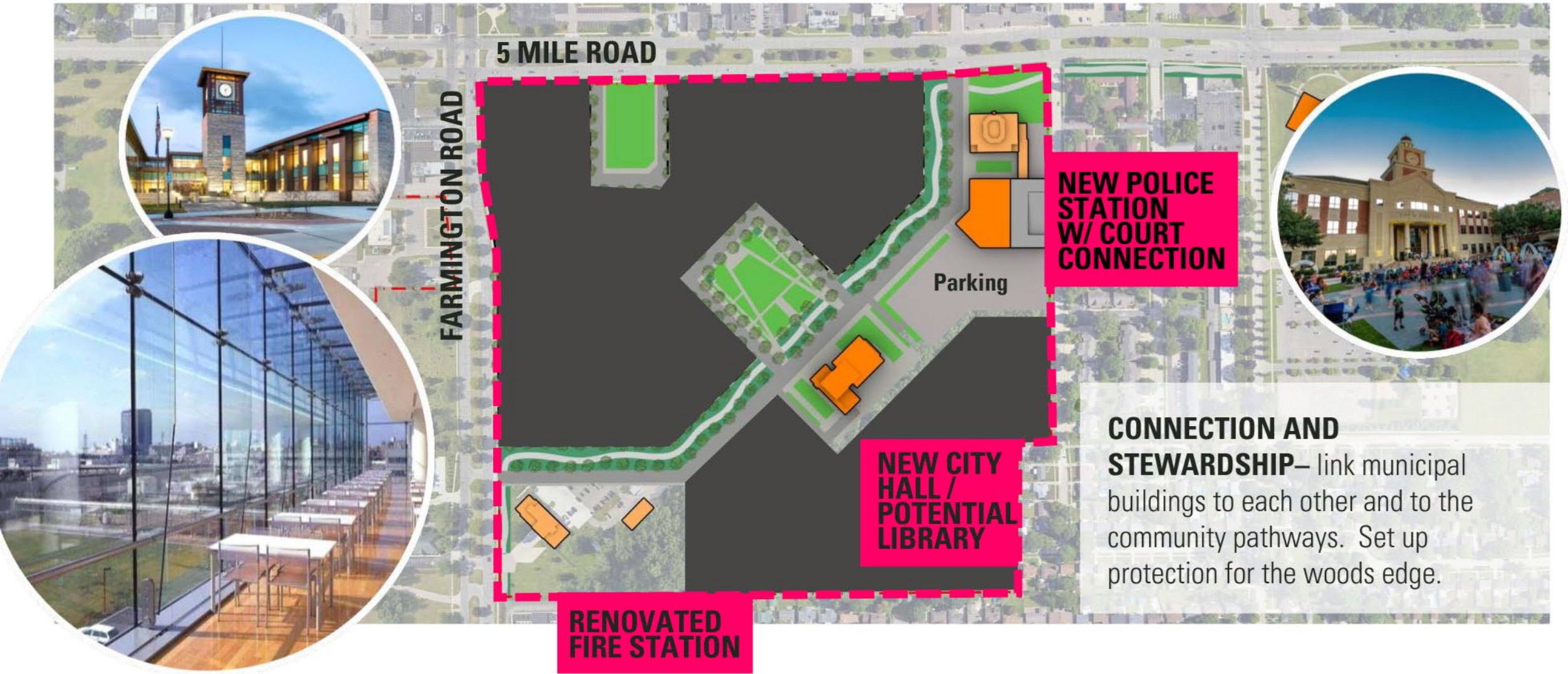
AUTHENTIC MOVES / Be the heart of Livonia's celebrations and traditions



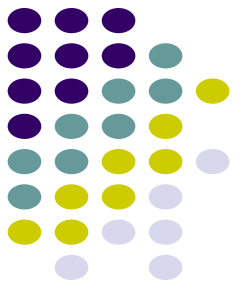
AUTHENTIC MOVES / Maximize investment for community impact



AUTHENTIC MOVES / Grant municipal facilities stewardship of the woods edge along the greenway



The Last Time the City Invested 1999



**GRATE PHOTO BY
BRIAN KIRKSEY**
**Livonia
Mayor
Jack Kirk-
sey and
city coun-
cil shovel
dirt dur-
ing the
ground-
breaking
ceremony
of the new
rec center
Thursday.**



Officials break ground for recreational cornerstone

**BY ALICE ASHMORE
STAFF WRITER
aashmore@oe.hometown.com**

A row of polished shovels – that no construction worker would be caught dead with – gleamed in the afternoon sun as local dignitaries officially broke ground for the Livonia community recreation center.

More than 100 people gathered in the sweltering heat on Thursday to celebrate the beginning of the project.

“We’re here to celebrate a very special occasion – full of excitement and full of promise,” Livonia Mayor Jack Kirksey said.

“We will have the ability to meet community and recreation needs of our community.”

The most important aspect of the project is that it is expected to help influence the demographics of the city, the mayor said.

“We can continue to attract young families,” Kirksey said. “We are trying to balance the demographics of the community and we will do it with this institution.”

The rec center is being built adjacent to Five Mile and Hubbard, near the old Bentley High School.

Superintendent of Schools Ken Watson was the last principal at Bentley High School.

“It’s a very sentimental and historical site for me,” Watson said.

“The best legacy for Bentley High School will be the recreation center. It represents what Livonia is all about.”

City Council Member Jack Engbretson declared it, “A great day for our community.” The rec center

will continue to make Livonia a great place to live and raise families, the councilman said.

“On the quality of life issue, this is the finishing touch,” Engbretson said.

Wayne County Prosecutor Mike Duggan, who chaired the millage campaign for the rec center, said “Wow, this is a great day for me. I grew up a mile from here.”

Duggan shared fond recollections of playing youth baseball on fields near the site.

The rec center will keep kids busy with healthy activities, which is important, Duggan noted.

“Whether parents want to face it or not, the harsh realities are that by eighth grade, one-half of students will try alcohol; and by 10th grade, one-half will try illegal drugs,” he said.

Duggan said having a place for families to spend time together helps combat those problems.

Engbretson added, “The mayor deserves great accolades for having the vision to have promoted this idea.”

The project is not a matter of trying to compete with rec centers in neighboring communities, Duggan said.

The new rec center will include two gyms, a lap pool and a leisure pool, a gymnastics center, a fitness center, a running track, a climbing wall, a children’s play area and a senior citizens lounge.

Kenneth Noumann, architect for the project, believes the new center will be visually stunning.

“We believe the building will have a ‘Wow’ factor,” he said.

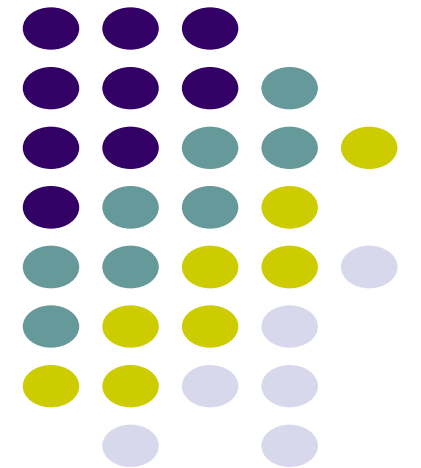
The \$30 million project is expected to be completed in early 2003.



Livonia Vision 21

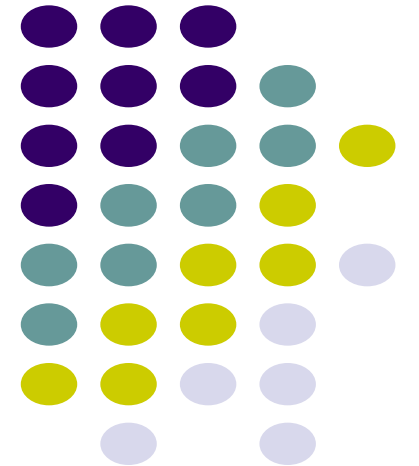
Financing the Vision

Responsibly, Sustainably and Community-Focused



Project Overview

Livonia Vision 21
Project Catalyst to City Center



Livonia Vision 21 City Center Timeline

Together We Build Tomorrow

Phase
1

2025
**NEW LIVONIA
SENIOR WELLNESS
CENTER**

Grant Funding
Secured

Phase
2

2026-27
NEW CITY HALL

Bond Funding
Secured

Phase
3

2028
**NEW POLICE
STATION,
FIRE STATION
RENOVATIONS,
NEW LIBRARY, PARK
SPACE, BIKE LOOP**

Millage Funding
Needed

Phase
4

2028 +
**NEW
RESTAURANTS,
RETAIL,
RESIDENTIAL**

Public-Private
Partnerships

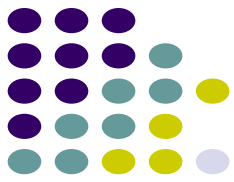
LivoniaBuilt.org

**#Livonia
BUILT**

LivoniaBuilt.org



PHASE 1: Funding the Senior Wellness Center



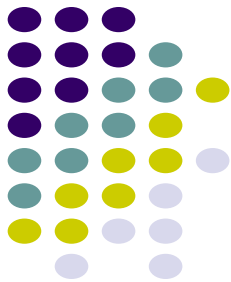
Source		Investment	% of Total
Grants:			
	Wayne County	\$8,000,000	29.6%
	Michigan Department of Health & Human Services	\$4,500,000	16.7%
	U.S. Department of Housing & Urban Development	\$4,250,000	15.7%
	ARPA Funds	\$4,000,000	14.8%
	Total Grant Funding	\$20,750,000	76.8%
Internal Funding:			
	Contribution from the Building Improvement Fund	\$2,000,000	7.4%
	Accumulated Fund Balance – Senior Center Construction Fund	\$4,000,000	14.8%
	Interest Earnings	\$250,000	1.0%
	Total Internal Funding	\$6,250,000	23.2%
	TOTAL SENIOR WELLNESS CENTER FUNDING	\$27,000,000	100.0%



**PHASE 1 - FUNDING SECURED – NO
ADDED COST TO TAXPAYERS**

PHASE 2: Funding City Hall

Later this year the City will issue up to \$45 million in bonds to finance the investment in constructing a new City Hall.



City of Livonia
Limited Tax General Obligation Bonds
Projected Bond Issuance, based on annual debt service available

\$2,400,000 Annual Debt Service target

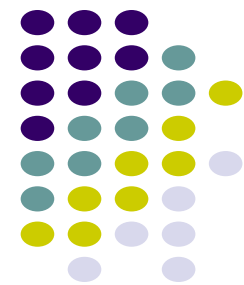
Annual Debt Service	Bond Term	Interest Rate*	Estimated Total Interest	Bond Amount	
\$2,400,000	20 years	4.50%	\$16,675,200	\$31,280,000	Additional existing funds available in Building Improvement Fund = ~\$9,000,000
\$2,400,000	25 years	4.75%	\$25,252,663	\$34,680,000	Est. Investment - new City Hall = \$40,000,000
\$2,400,000	30 years	5.00%	\$35,121,688	\$36,805,000	

**Estimated rates – actual rates determined at time of sale.*



**FUNDING SECURED – NO ADDED
COST TO TAXPAYERS**

PHASE 3: Funding The Future With a Bond Proposal Supported by Voters



Bonds supported by a new debt millage will be used to build or renovate:

<u>Project Area:</u>	<u>Investment Estimate</u>
Library	\$37,500,000
Police Station	\$66,700,000
Renovate Fire Stations	\$16,000,000
City Center Plaza with Public Amenities	\$19,100,000
Infrastructure & Parking	<u>\$10,700,000</u>
Investment Needed	\$150,000,000

LIVONIA VISION 21

Proposed Sources of Funding – Project Catalyst to City Center

Funding Required

PHASE 1 - Grants from Wayne County, State of Michigan and Federal Funding (\$20.75M) + EXISTING CITY FUNDS (\$6.25M) – No new cost to taxpayers:

Senior Wellness Center	\$27,000,000
------------------------	--------------

PHASE 2 - Bonds from EXISTING REVENUE SOURCES – No new cost to taxpayers:

City Hall	\$40,000,000
-----------	--------------

PHASE 3 - Bonds paid from a voted debt millage would be invested in:

Library	\$37,500,000
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Police Station	\$66,700,000
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Fire Stations	\$16,000,000
---------------	--------------

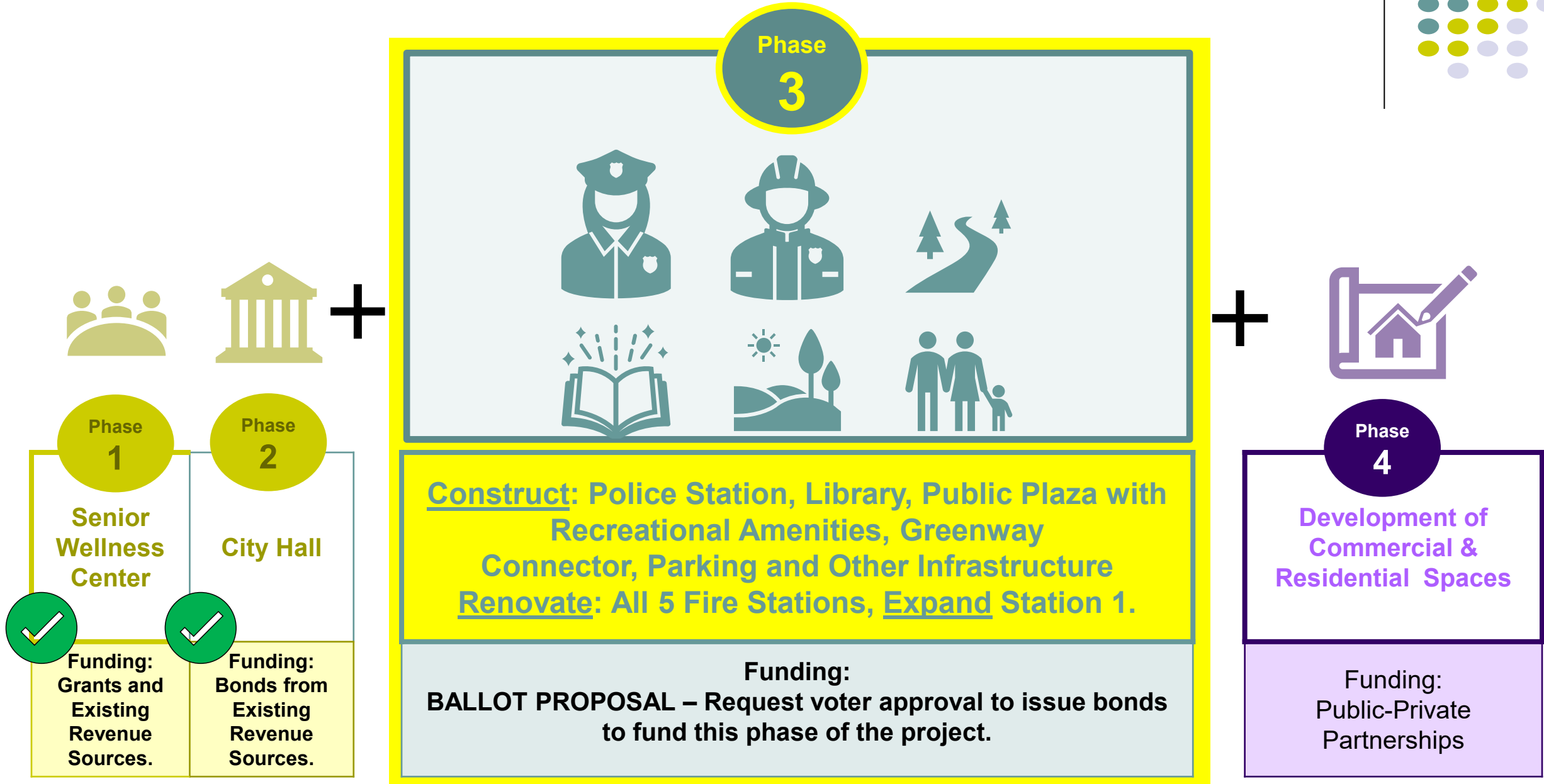
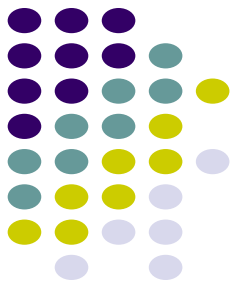
City Center Plaza with Public Amenities	\$19,100,000
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Other Infrastructure & Parking	<u>\$10,700,000</u>
--------------------------------	---------------------

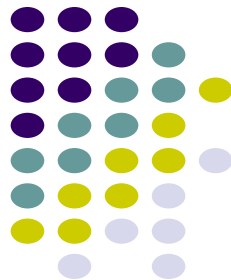
Bonds supported by Voted Debt Millage	\$150,000,000
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ESTIMATED TOTAL LIVONIA VISION 21 PROJECT INVESTMENTS	\$217,000,000
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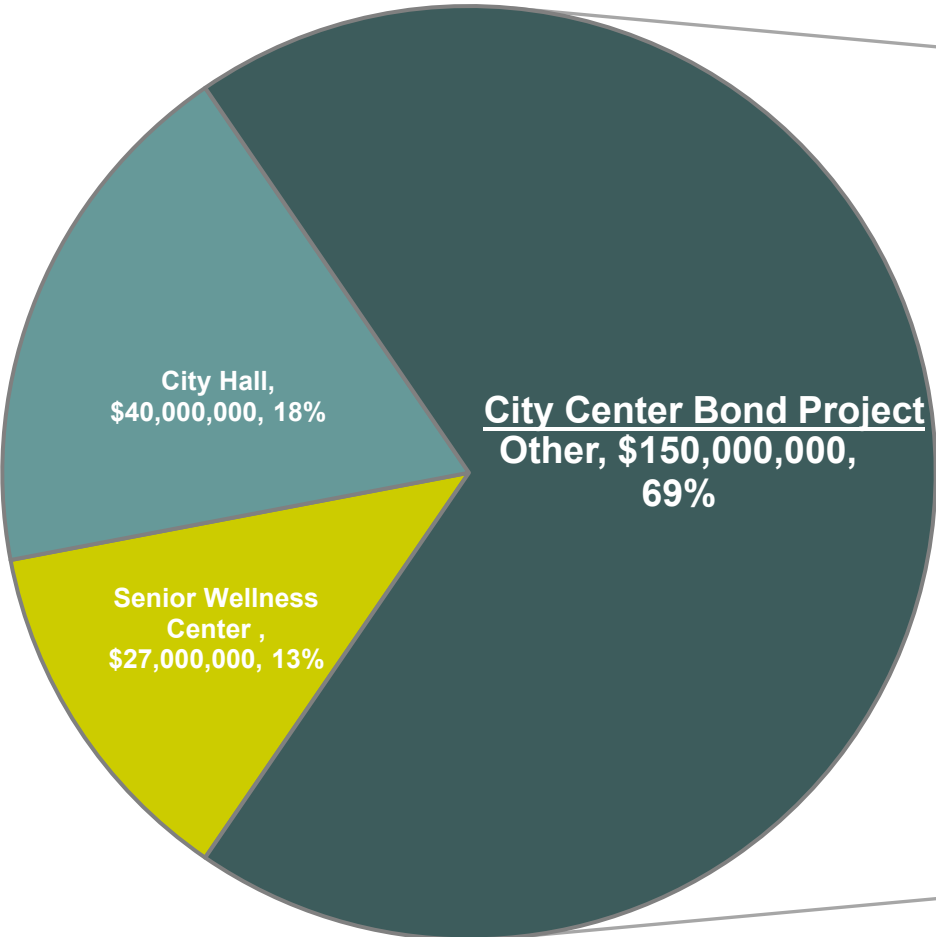
Defining the City Center Project



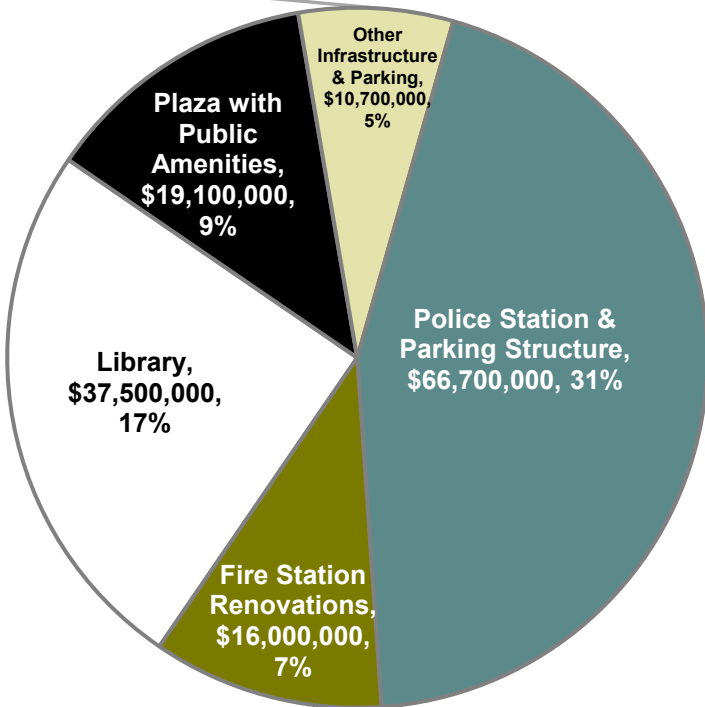
Here's Where We Are Investing



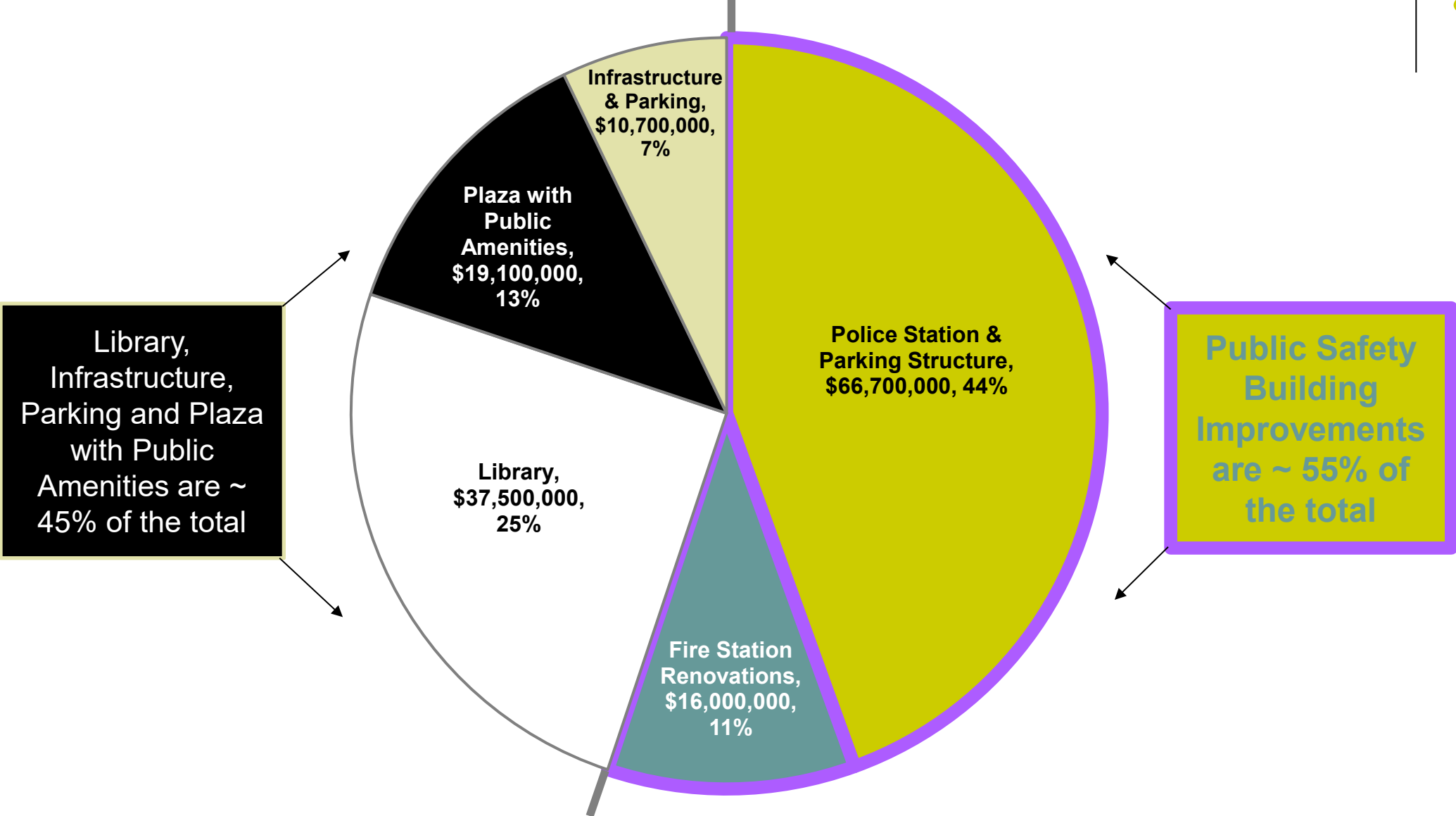
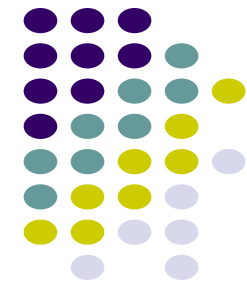
Total Investment – Project Catalyst to City Center
\$217,000,000



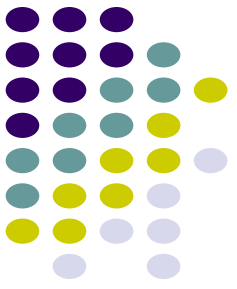
Investment Amount Included in the Ballot Proposal
\$150,000,000



Breakdown of Investments Included in the Ballot Proposal

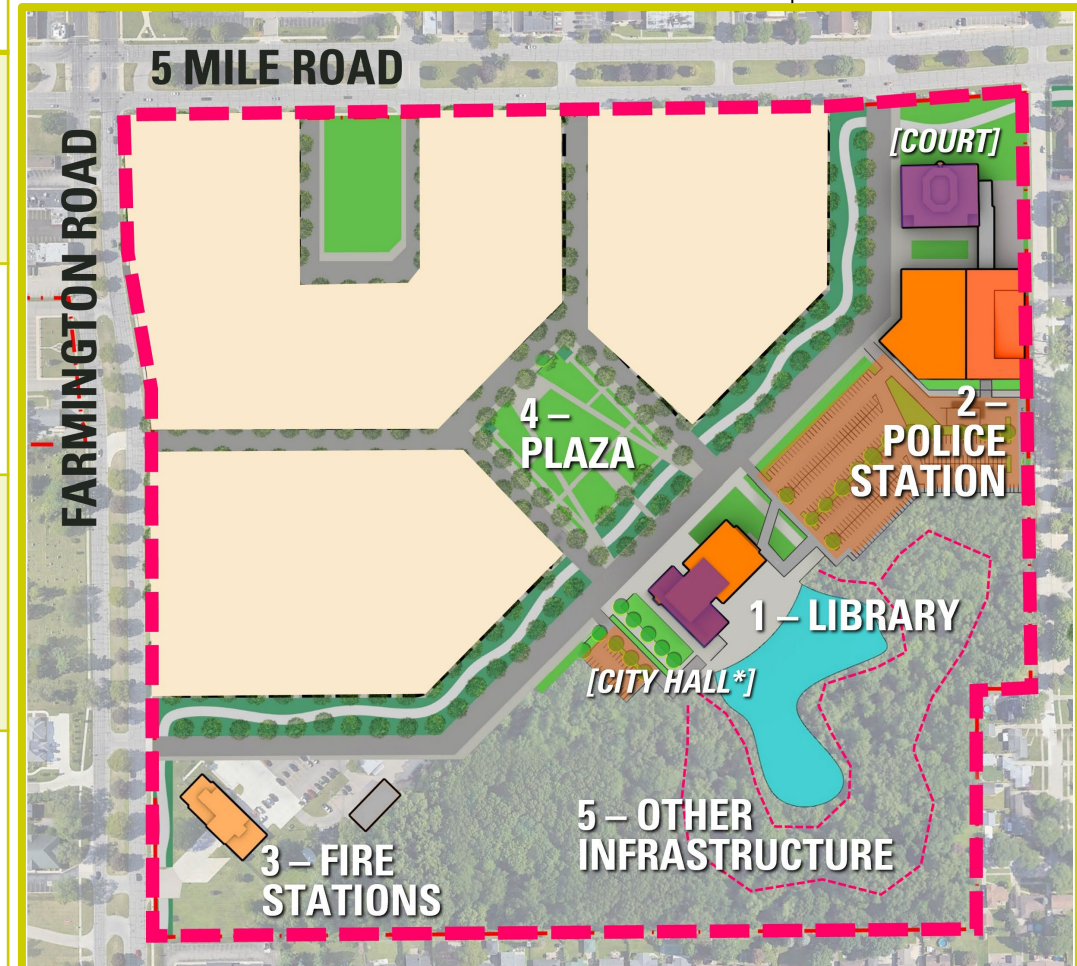


What is included in the current PHASE 3 budget?



1	<u>Library</u> - New Library - Demolition of existing building	\$37,500,000
2	<u>Police Station</u> - New Police Headquarters - Secured parking deck for patrol vehicles - Moving cell tower and fuel station	\$66,700,000
3	<u>Fire Stations</u> - Station 1 Renovation & Expansion - Station 3-6 Renovation - Enhanced technology upgrades to all stations	\$16,000,000
4	<u>City Center Plaza & Public Amenities</u> - Creation of Plaza - Pathways, lighting, public Wi-Fi, etc. - Park amenities for public use – active & passive - Greenway, bike loop, recreation pond, nature trail, etc.	\$19,100,000
5	<u>Other Infrastructure & Parking</u> - Surface parking - Demolition of existing City Hall - Stormwater detention - Streets, landscape, paths, lighting, utilities, etc.	\$10,700,000
Total Investment		\$150,000,000

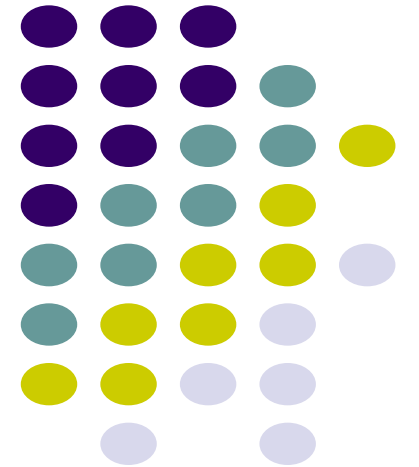
Phase 3

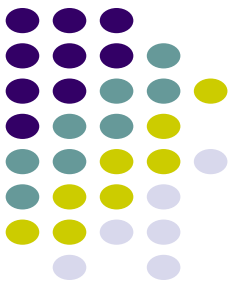


*City Hall portion of building is **FUNDED SEPARATELY**
- NOT part of the ballot proposal.

Project Financing – City Center

Debt Service Costs and Millage Impact





Good Question: What is a bond?

A **bond is a financing tool** that allows the City to borrow money for a specific use and pay it back over time.

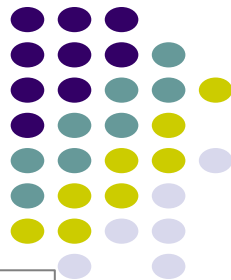
- *This is like a mortgage on a home.*

The **annual debt service** is the amount that needs to be paid each year for both interest and principal.

The **annual payment** depends on:

- *The amount borrowed*
- *The length of the bonds*
- *The interest rate at the time of the bond sale*

Sample Ballot Language



MUNICIPAL FACILITIES PROPOSAL

Shall the City of Livonia, County of Wayne, Michigan, borrow the principal sum of not to exceed _____ Dollars (\$_____) and issue its general obligation unlimited tax bonds, in one or more series, payable in not to exceed _____ (____) years from the date of issuance of each series, for the purpose of paying the cost of [acquiring land and buildings for use by the City, and acquiring, constructing, renovating, furnishing, and equipping various municipal facilities in the City], including, but not limited to, _____, together with all related site improvements, appurtenances and attachments?

If approved, the estimated millage to be levied in [2025] is _____ mills (\$_____ per \$1,000 of taxable value) and the estimated simple average millage rate required to retire the bonds is _____ mills (\$_____ per \$1,000 of taxable value).

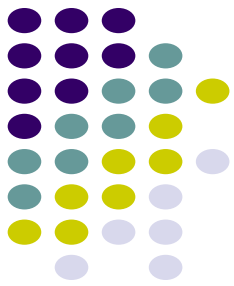
Total Principal to be borrowed

Maximum length of the bond repayment

What can the bond proceeds be used for?

When will the levy first appear on the tax bill?

What is the estimated millage rate in year one?

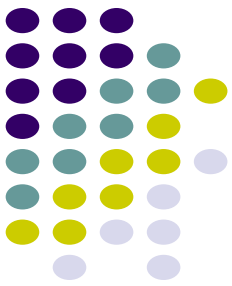


FINANCING STRUCTURE:

Debt Service - \$150M Bond Issue – Single Series

Over The Full Duration of the Bond					First Year	
Duration	Est. Interest Rate*	Principal	Interest	P&I Total	Debt Service Payments	Millage Required to Support Debt Service
25 years	4.75%	\$150M	\$118.4M	\$268.4M	\$8.3M	1.49 mills

**Actual interest rate will be determined at time of bond sale.*



FINANCING STRUCTURE :

Debt Service - \$150M Bond Issue – Two Series

Series 1 = \$100M, issued November 2025

Series 2 = \$50M, issued November 2027

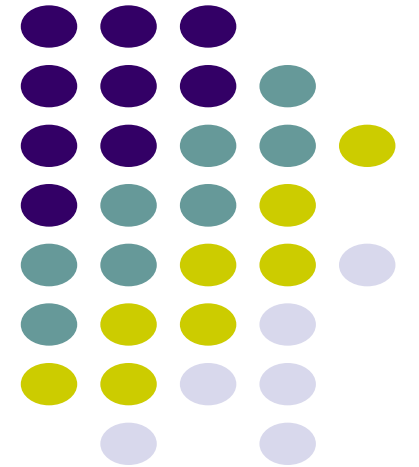


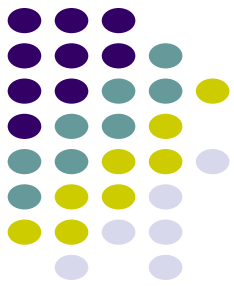
Over The Full Duration of the Bond					First Year	
Duration	Est. Interest Rate*	Principal	Interest	P&I Total	Debt Service Payments	Millage Required to Support Debt Service
25 years	4.75%	\$150M	\$111.2M	\$261.2M	\$8.0M	1.43 mills

**Actual interest rate will be determined at time of bond sale.*

Impact on Livonia Homeowners

Annual and Monthly Changes to Property Taxes





INVESTMENT BY THE AVERAGE RESIDENT:

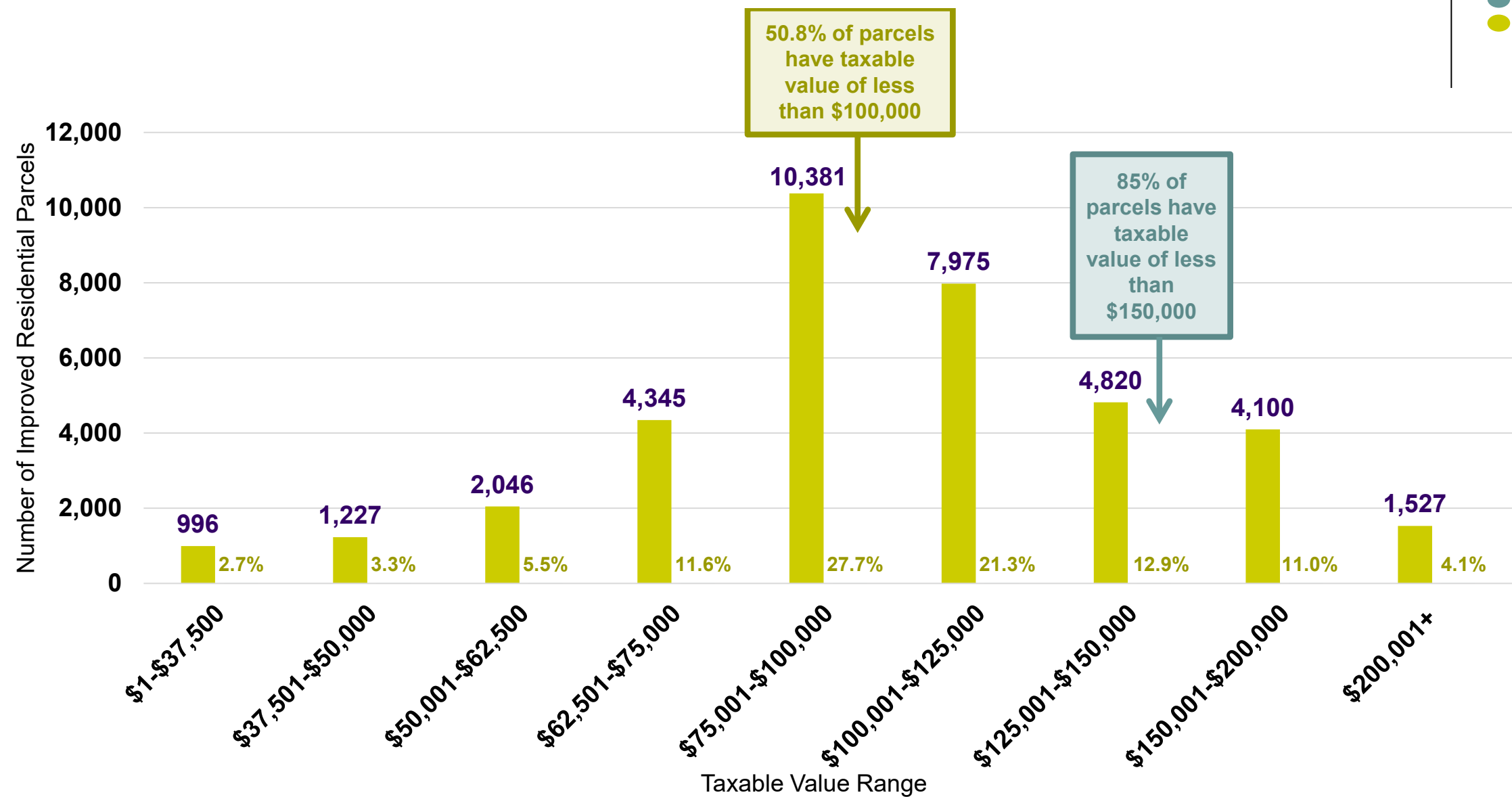
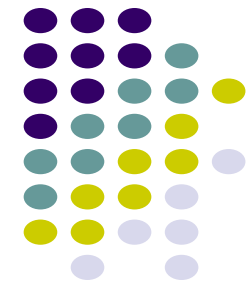
Debt Service - \$150M Bond Issue

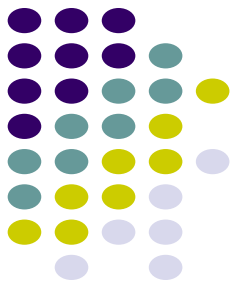
Based on Average 2025 Taxable Value of Improved Residential Property = \$107,055



Duration	Debt Service Payments	Millage Required to Support Debt Service	Additional Annual Property Tax	Monthly Investment
25 years	\$8.0M	1.43 mills	\$153.09	\$12.76

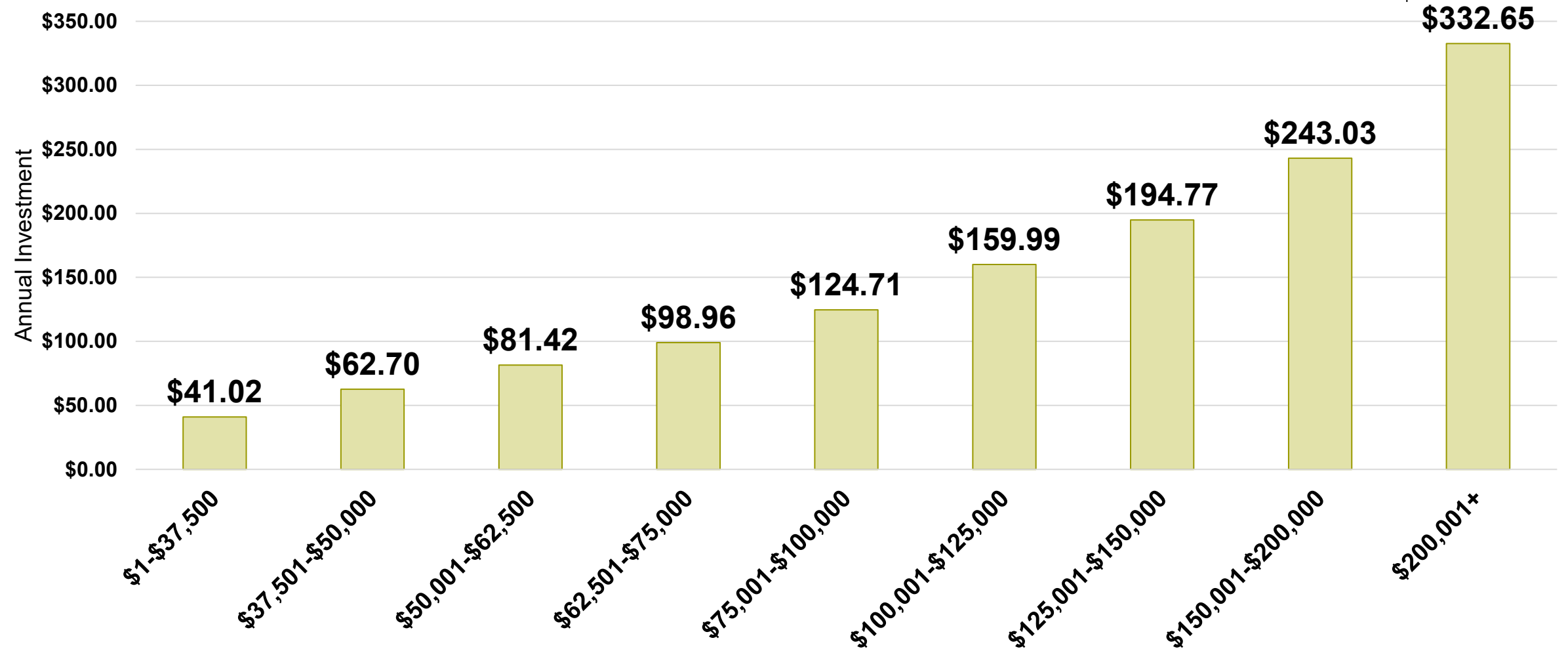
Residential Parcel Count – Improved Properties



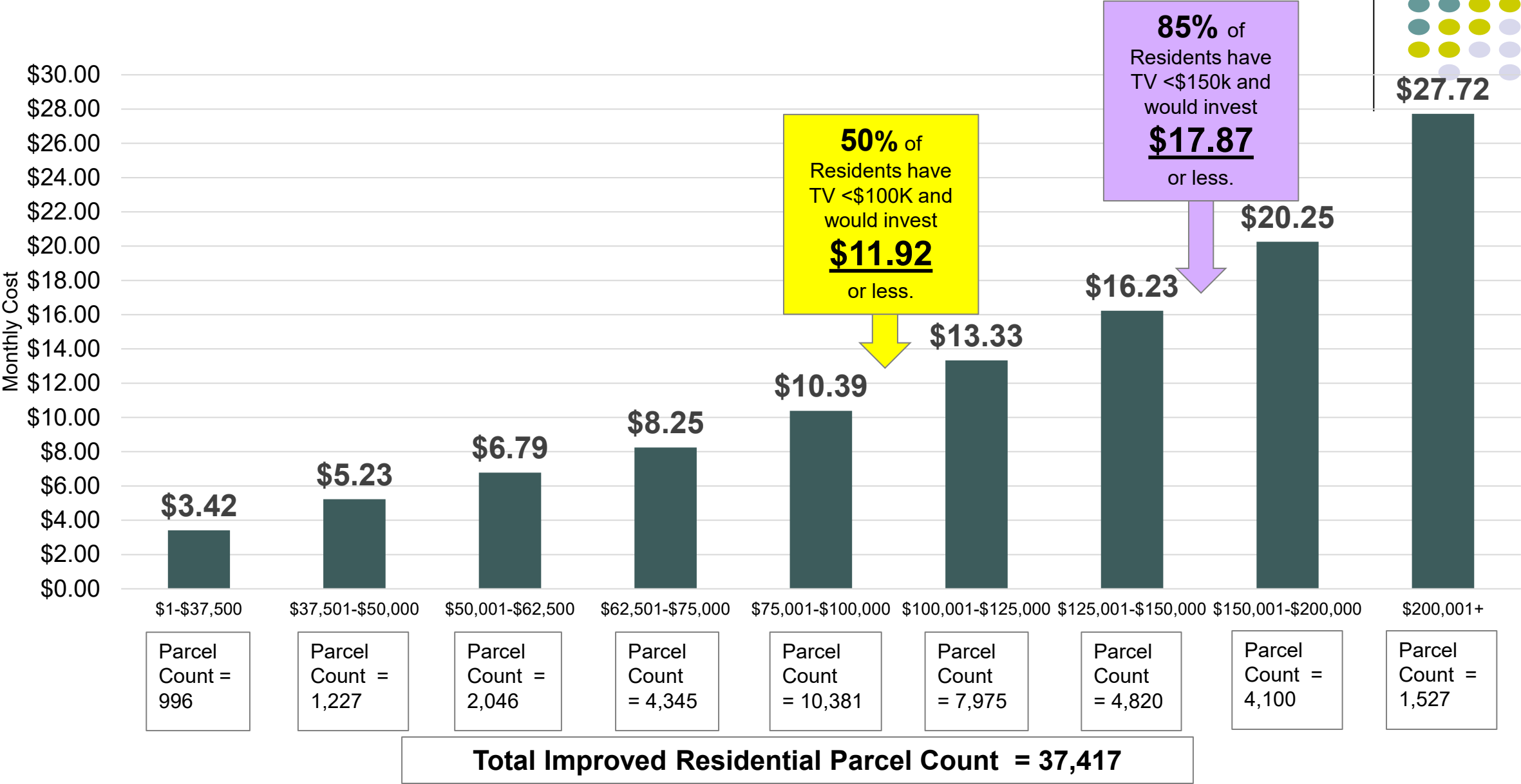


Annual Investment by Residents

Based on Average Taxable Value within each Range

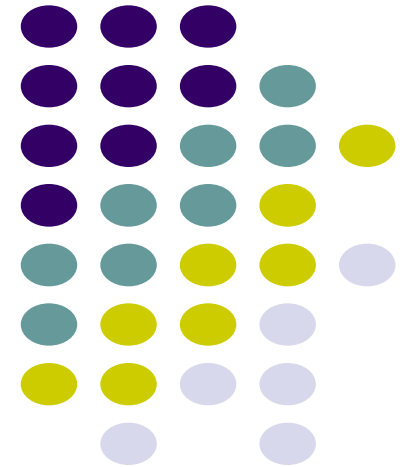


Monthly Investment by Residents

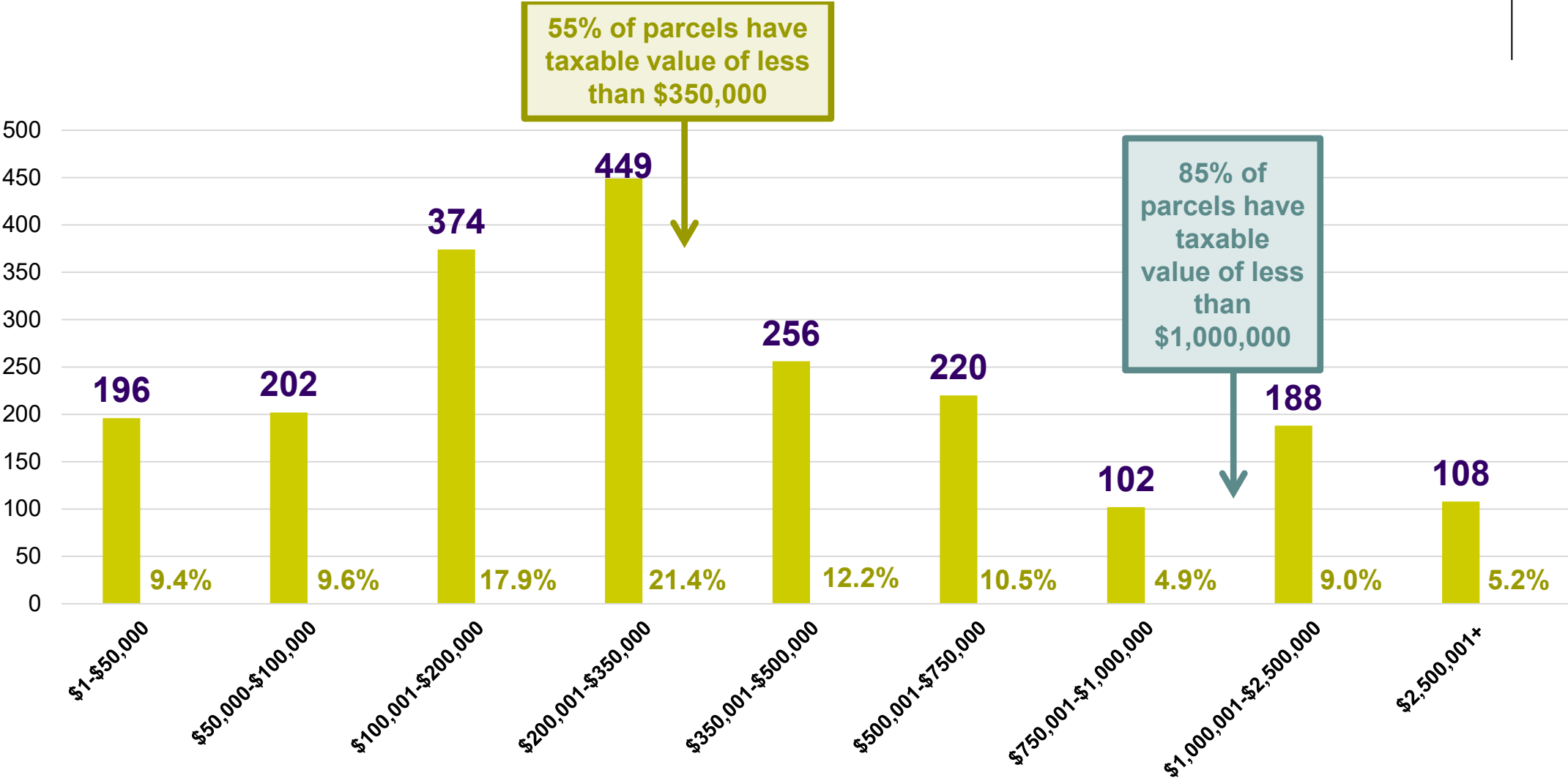
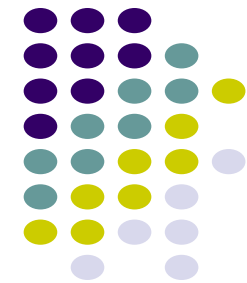


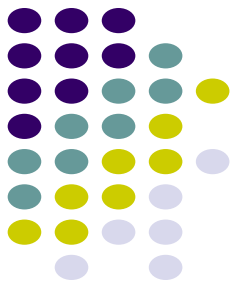
Impact on Livonia Business Owners

Annual and Monthly Changes to Property Taxes



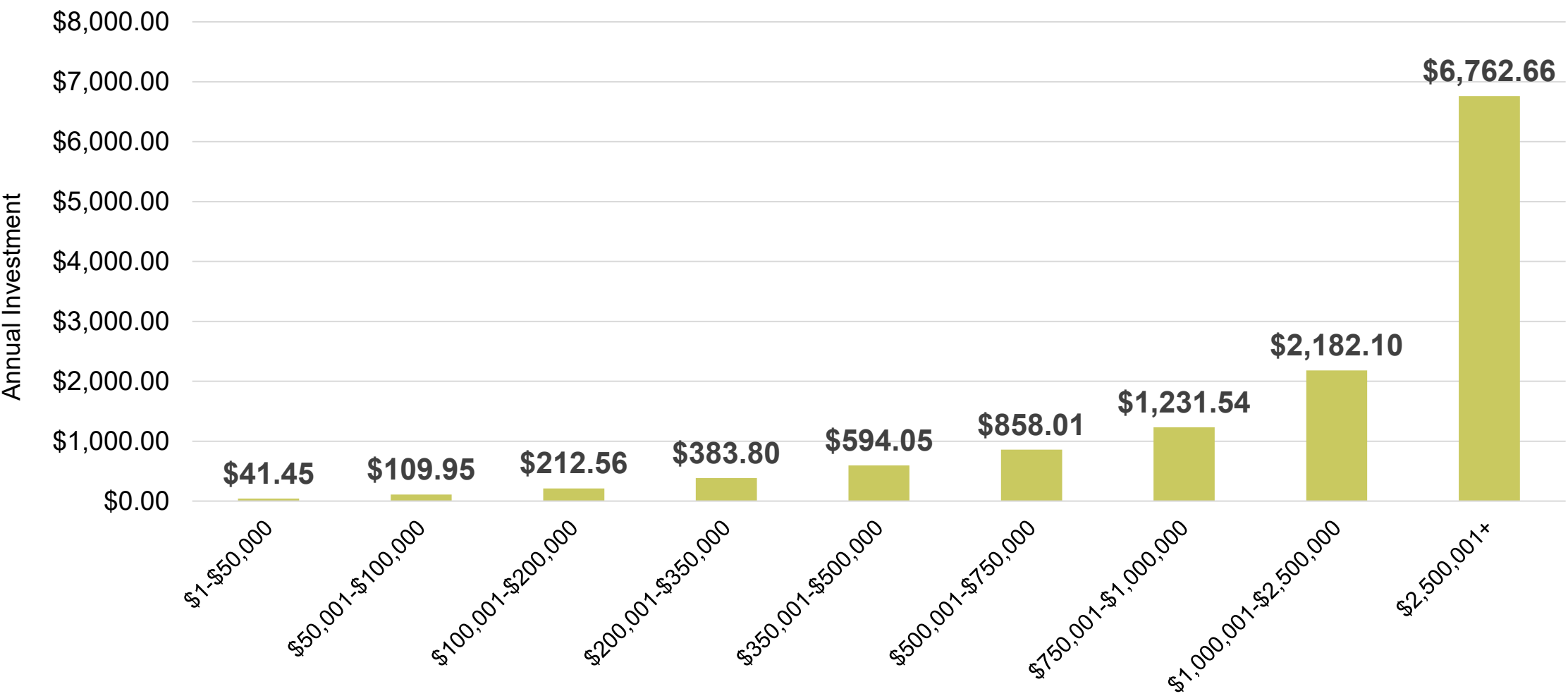
Commercial & Industrial Parcel Count



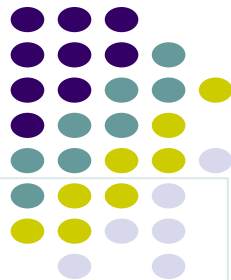


Annual Investment by Commercial & Industrial Properties

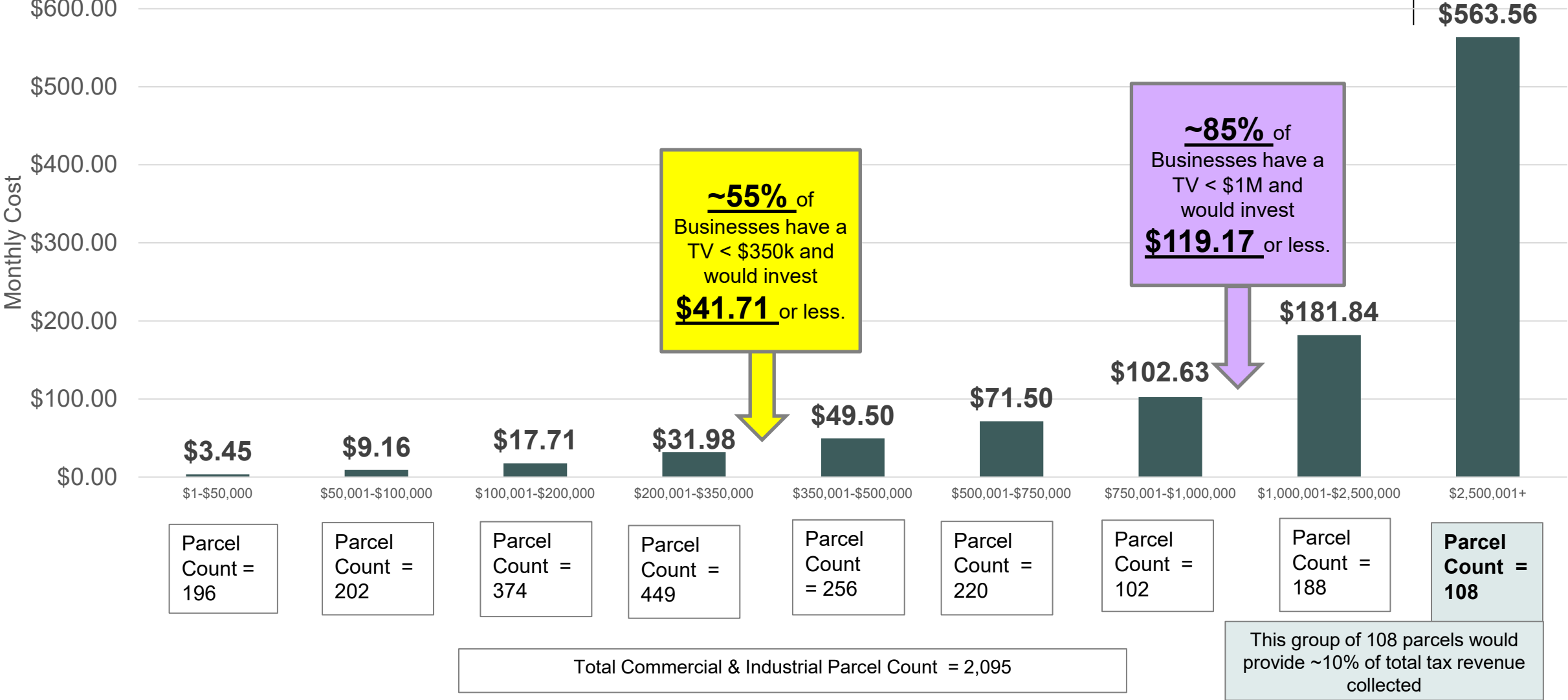
Based on Average Taxable Value within each Range



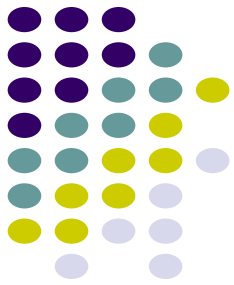
Monthly Investment by Commercial & Industrial Properties



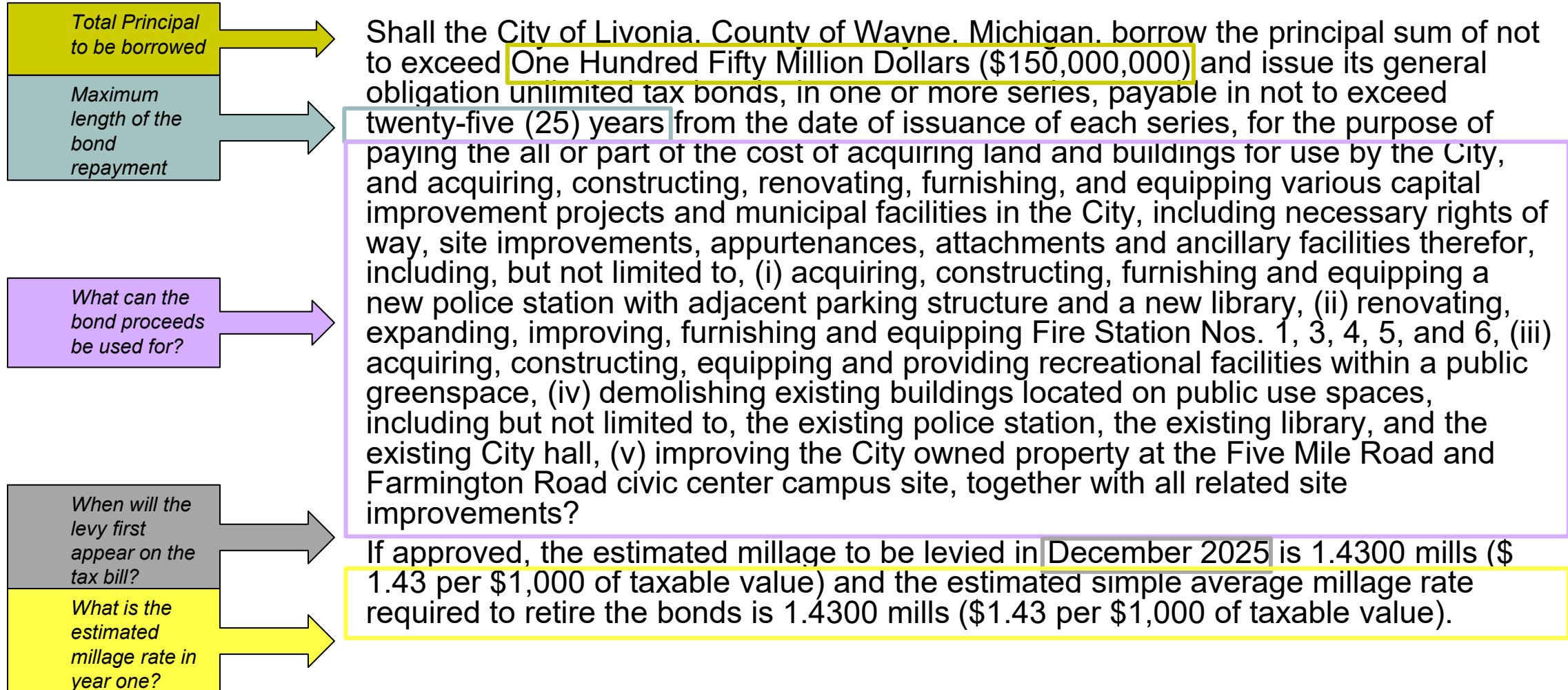
Based on Average Taxable Value within each Range



Proposed Ballot Language - based on Recommendation from Administration:

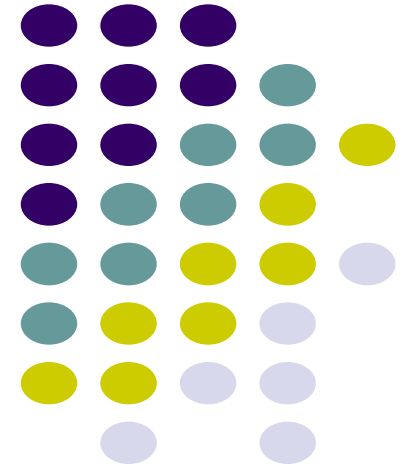


MUNICIPAL FACILITIES PROPOSAL



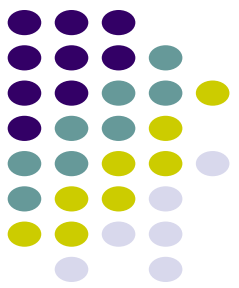
Repair, Renovate or Build New

Civic Center Library





**SERVICES EVOLVE, BUT
LIBRARIES ARE MORE THE
HEART OF THE COMMUNITY
THEN EVER.**



Investments Scenarios for Library Improvements

- The ballot proposal will be asking for funding for the Bennett Library to either:
 - Perform basic repairs and maintenance required – no structural improvements
 - Fully renovate
 - Construct a new library

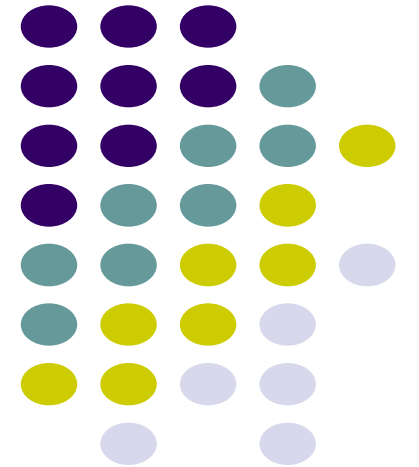
What is the difference in the investment needed?

Option	Investment Needed	Tax Amount for Average Taxpayer	
		Annual	Monthly
Perform repairs and maintenance required at the existing Bennett Library – no structural improvements	\$16,500,000	\$16.84	\$1.40
Fully renovate existing Bennett Library	\$31,500,000	\$32.15	\$2.68
Construct New Library*	\$37,500,000	\$38.27	\$3.19

**Amount Included in Bond Scenarios*

Millage Comparison

All Wayne County Cities

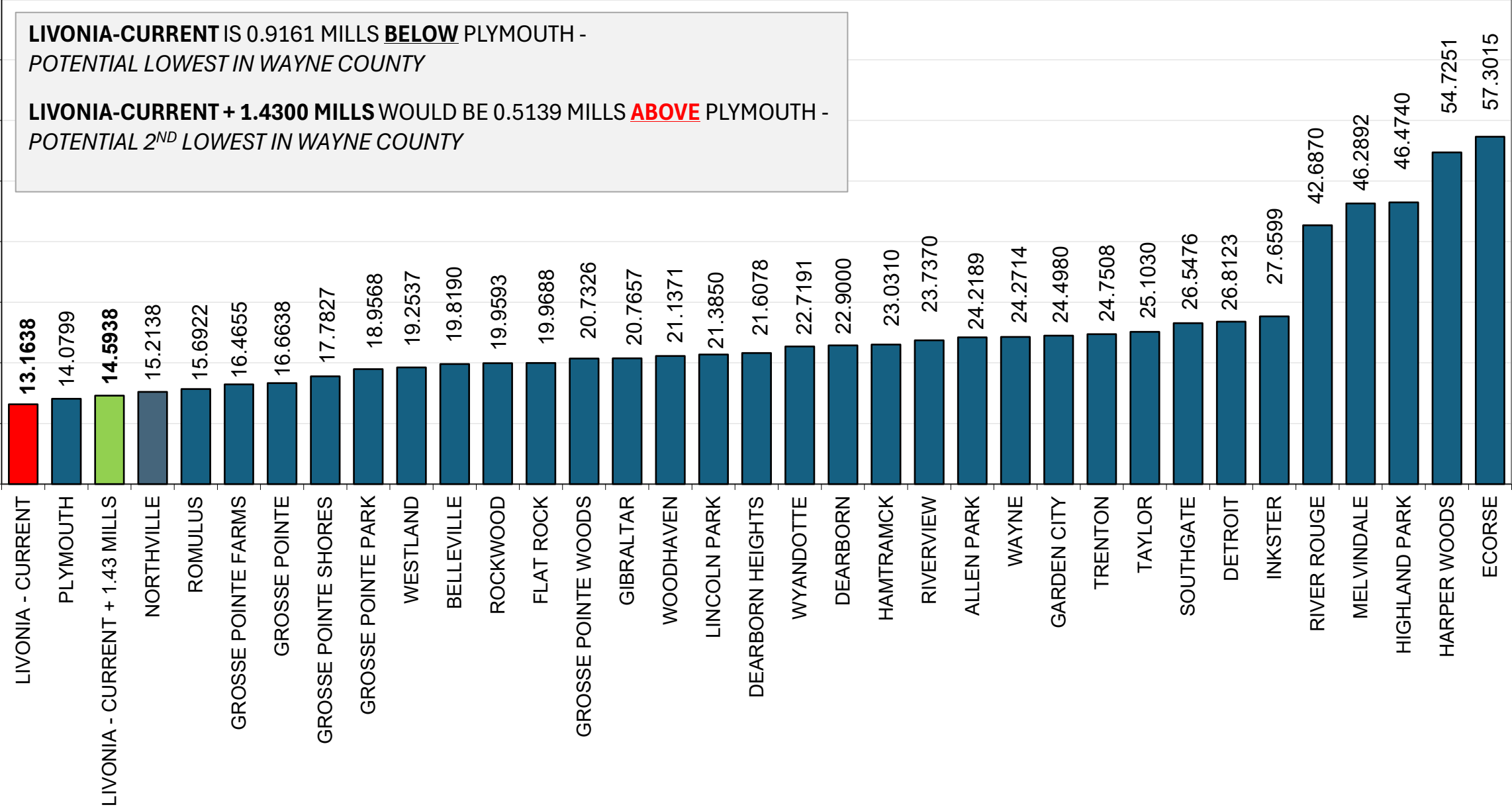


CITY TAX RATE COMPARISON (2024)
WAYNE COUNTY, MICHIGAN
BY MUNICIPALITY

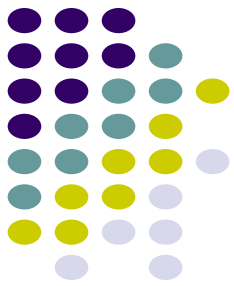
Mills Levied (2024)

LIVONIA-CURRENT IS 0.9161 MILLS **BELOW** PLYMOUTH -
POTENTIAL LOWEST IN WAYNE COUNTY

LIVONIA-CURRENT + 1.4300 MILLS WOULD BE 0.5139 MILLS **ABOVE** PLYMOUTH -
POTENTIAL 2ND LOWEST IN WAYNE COUNTY



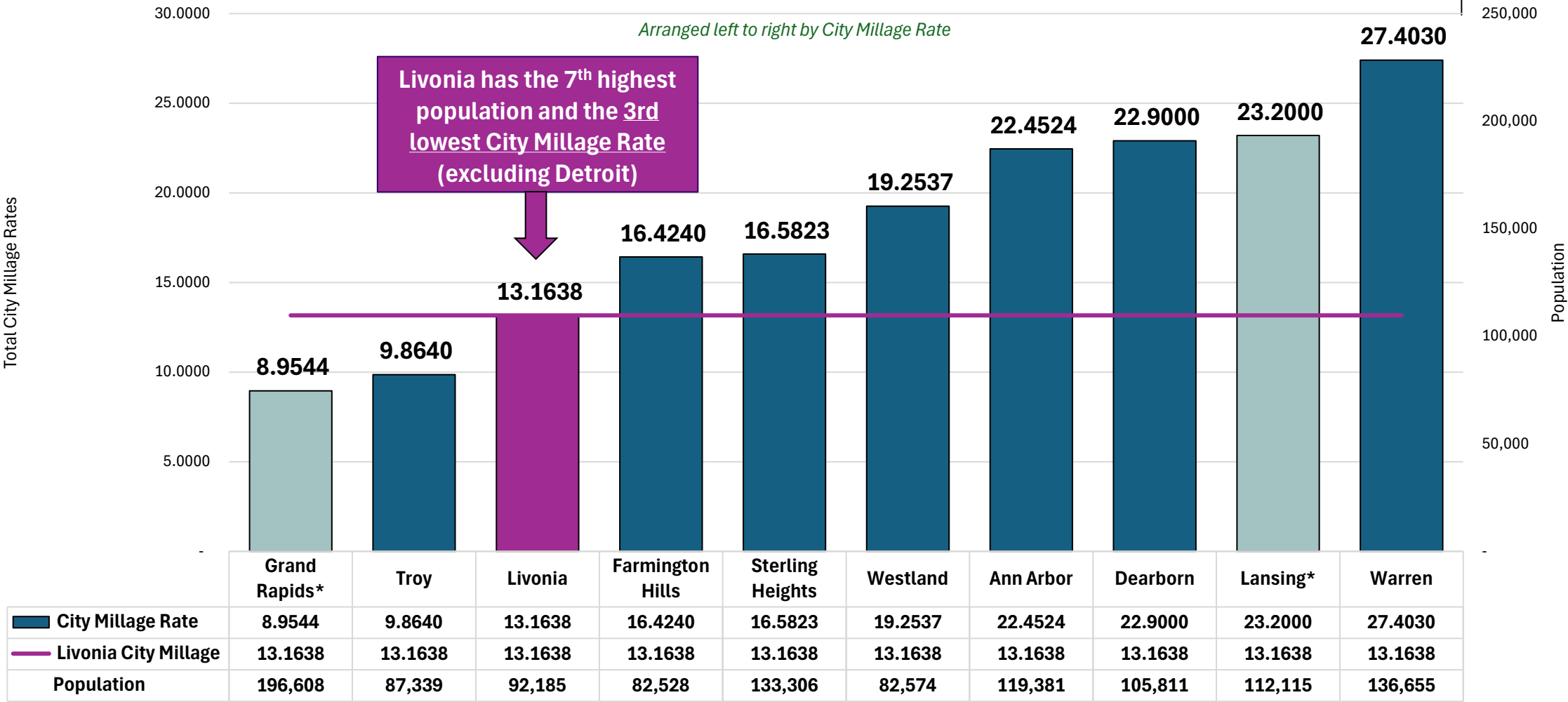
Total Millage Rates – Including City, Schools, County, and other taxing units (2024)



Township / City	School Code	Local School District	Total Homestead Property Tax Rate	Total Homestead Property Tax Rate Gap vs. Livonia (LPS)
Livonia	63090	CLARENCEVILLE SCHOOL DIST	37.0185	(3.7482)
Livonia	82095	LIVONIA PUBLIC SCHOOLS	40.7667	-
Plymouth	82100	PLYMOUTH CANTON COMM SCHS W/SCC	41.4368	0.6701
Northville	82390	NORTHVILLE PUBLIC SCHOOLS	42.5710	1.8043
Westland	82131	ROMULUS (INKSTER DEBT)	43.1085	2.3418
Westland	82151	TAYLOR (INKSTER DEBT)	43.1085	2.3418
Westland	82150	TAYLOR SCHOOL DISTRICT	43.9585	3.1918
Romulus	82160	WAYNE-WESTLAND COMMUNITY S/D	45.0214	4.2547
Belleville	82430	VAN BUREN PUB SCHOOLS	45.3072	4.5405
Dearborn Heights	82150	TAYLOR SCHOOL DISTRICT	46.3127	5.5460
Romulus	82365	WOODHAVEN SCHOOL DISTRICT	47.5241	6.7574
Dearborn Heights	82230	CRESTWOOD SCHOOL DISTRICT	47.5429	6.7762
Westland	82095	LIVONIA PUBLIC SCHOOLS	47.8482	7.0815
Allen Park	82045	MELVINDALE ALLEN PARK SCHS	48.0737	7.3070
Westland	82160	WAYNE-WESTLAND COMMUNITY S/D	48.5829	7.8162
Riverview	82400	RIVERVIEW COMMUNITY SCH DIST	49.4586	8.6919
Taylor	82150	TAYLOR SCHOOL DISTRICT	49.8078	9.0411
Rockwood	82290	GIBRALTAR SCHOOL DISTRICT	49.8262	9.0595
Grosse Pointe Farms	82055	GROSSE POINTE PUBLIC SCHS	50.0460	9.2793
Flat Rock	82290	GIBRALTAR SCHOOL DISTRICT	50.1437	9.3770
Grosse Pointe	82055	GROSSE POINTE PUBLIC SCHS	50.2443	9.4776
Westland	82050	GARDEN CITY SCHOOL DISTRICT	50.2863	9.5196
Flat Rock	82365	WOODHAVEN SCHOOL DISTRICT	50.8091	10.0424

●Note: This is a partial list of Wayne County cities, sorted in increasing order. Other Wayne County communities not shown here have total millage rates that are more than 10 mills higher than Livonia.

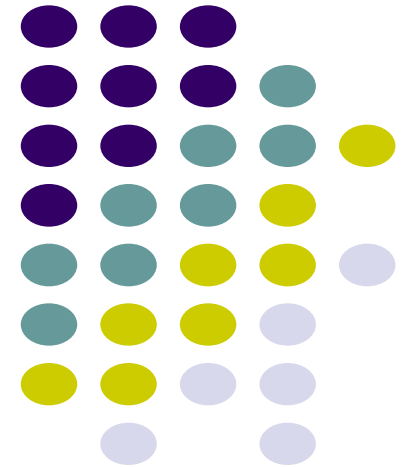
Top 10 Largest Cities in Michigan *(excluding Detroit)*



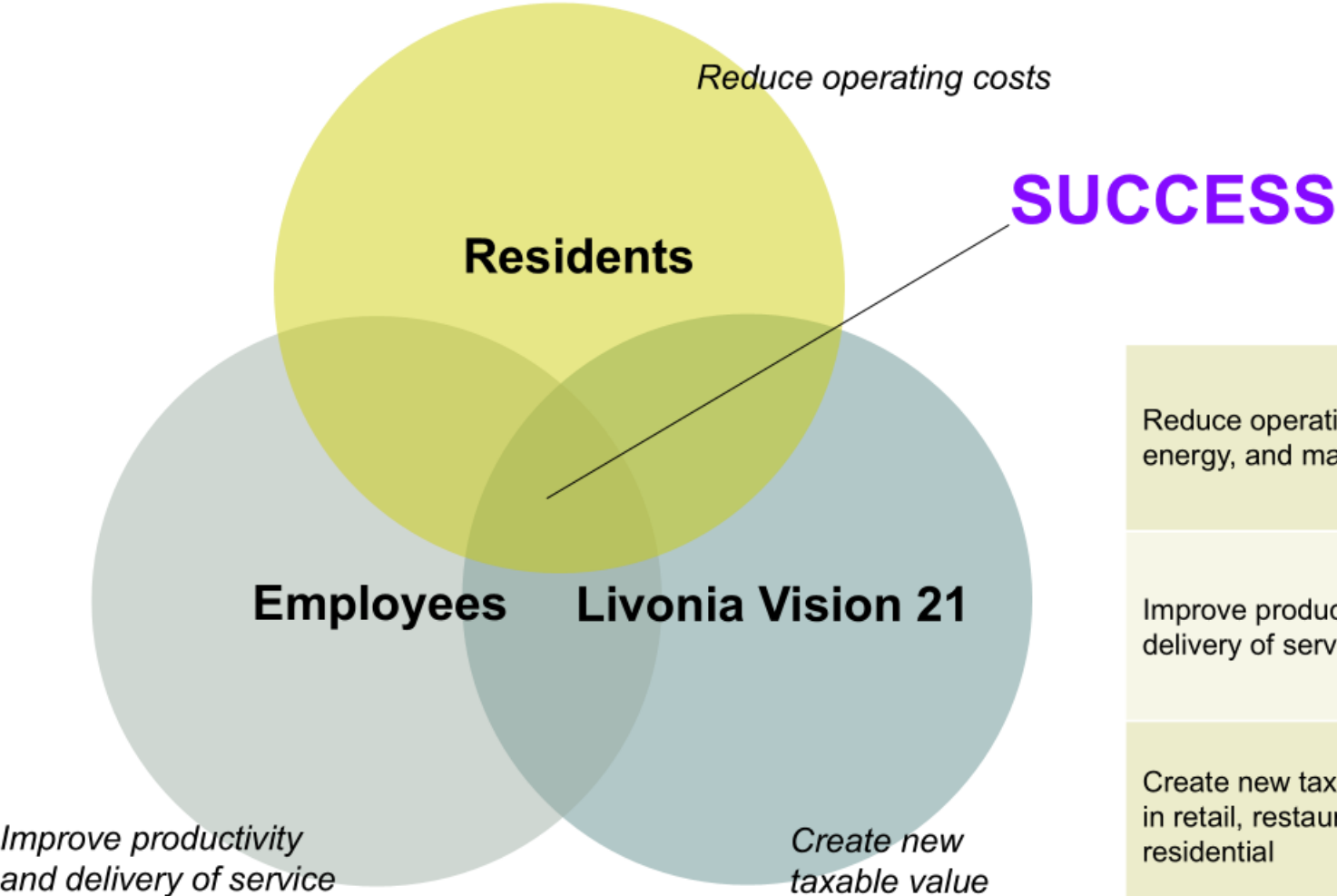
**Local unit imposes a City Income Tax in addition to property tax assessments*

What if...?

We can step up to all three challenges and make Livonia a city our children want to come home to



THE TRIPLE WIN METHOD OF ANALYSIS



	City Hall	Police HQ	Library
Reduce operating costs, energy, and maintenance	✓	✓	✓
Improve productivity and delivery of services	✓	✓	✓
Create new taxable value in retail, restaurants, residential	✓	✓	✓

Our Neighbors are Investing in Their Futures



Canton Township could be on path to building Michigan's first net-zero fire station



Laura Colvin
Hometownlife.com

Published 1:42 p.m. ET May 10, 2024



Canton Township's Fire Station No. 4, proposed at the southwest corner of Michigan Avenue and South Lilley Road, would look architecturally identical to Station No. 2, shown here 41440 Warren Road. *Courtesy Canton Township Fire Department*

CANTON TWP. — A new addition to the township's lineup of fire stations could also be Michigan's first net-zero fire station.

Although engineering is still in the research and planning phases, the

Novi police, fire stations would be demolished, new facilities built in \$120M ballot proposal



Susan Bromley
Hometownlife.com

Published 6:01 a.m. ET March 14, 2025



The Novi Police Department. *JOHN HEIDER | Hometownlife.com*

Key Points AI-assisted summary

- Novi voters will decide on a \$120 million bond proposal in August to fund new public safety facilities.
- The proposal includes a new public safety complex for police and fire, two stand-alone fire stations, and renovations to a fourth fire station.
- If approved, the bond would be funded by a 1 mill levy in the first year, averaging .95 mills annually over 25 years.
- City officials say the investment is necessary to replace outdated and inadequate facilities with state-of-the-art resources.

Northville Twp. breaks ground on \$44M 'Essential Services Complex' at old hospital site



Laura Colvin
Hometownlife.com

Published 2:07 p.m. ET May 16, 2024 | Updated 2:41 p.m. ET May 16, 2024

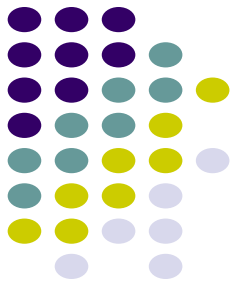


A drone shot from the May 14 groundbreaking shows the construction site for the new Essential Services Complex in Northville Township. *Courtesy Northville Township*

NORTHVILLE TWP. — Construction of the township's new \$44 million "Essential Services Complex" is officially underway following a groundbreaking ceremony May 14 at the site of the former state psychiatric hospital on Seven Mile Road.

Under construction west of Haggerty Road, the complex will include a second fire station for the township, which officials say is needed to reduce response times to the northeast quadrant of the community, along with a

Our Neighbors are Investing in Their Futures



Plymouth Township considers \$8.4 million replacement of 1976 fire station



Laura Colvin
Hometownlife.com

Published 10:56 a.m. ET March 15, 2024



A draft rendering by Partners in Architecture shows a potential plan for a new fire station on Wilcox Road in Plymouth Township. Plymouth Township

PLYMOUTH TWP. — Preliminary plans to replace the aging No. 2 fire station with a new \$8.4 million facility include modern accommodations designed to take the department into the future, but township officials haven't yet voted on whether they will or won't build it.

At a meeting March 12, the Plymouth Township Board of Trustees reviewed draft designs and cost considerations for a 10,455-square-foot facility to replace the current fire station built in 1976 at 41212 Wilcox Road. A final decision is likely coming in the months ahead.

Westland expected to break ground on nearly \$12M park this month



Shelby Tankersley
Hometownlife.com

Published 7:00 p.m. ET Aug. 5, 2024



A rendering shows the coming Nankin Square Park in Westland. The park is planned to include space for events, a walking path and play areas for children. Courtesy Of The City Of Westland

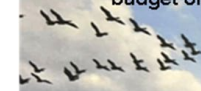
WESTLAND — City officials are planning a nearly \$12 million park that they hope will help spark a downtown-like environment.

The park, named Nankin Square, is slated for 3.9 acres between the Westland Community Health Center, 35700 Warren Road, and the city's main fire station at 35701 Central City Parkway. The project is expected to break ground this month and be completed in September 2025.

Officials hope the park will help revitalize the nearby Westland Mall property, which residents have [described as an eyesore](#) for years.

"We're using this as an economic development catalyst for the mall property," said Alex Garza, the city's chief business development officer. "With that property being what it is, we're looking for the mall ownership to hopefully redevelop the property."

Westland Fire Station No. 2 Construction to Begin This Fall
Westland, MI - The Westland City Council has approved the construction of a new fire station. The new Fire Station No. 2, spanning 13,100 square ft. will be strategically located north of the Hines Park Bridge on Merriman Road, to ensure optimal response times for emergency services. The project has a budget of \$6,575,000, covering construction costs and a contingency fund for unforeseen expenses.



New splash pad, inclusive playground coming to Westland's beloved Tattan Park



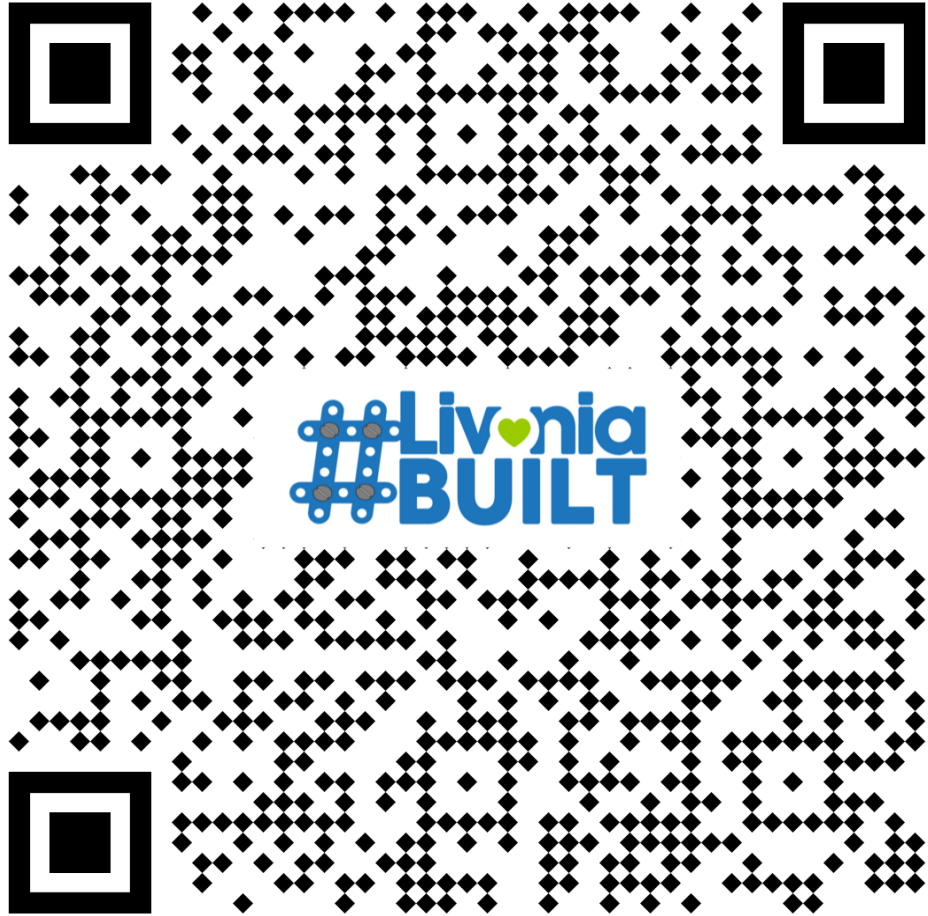
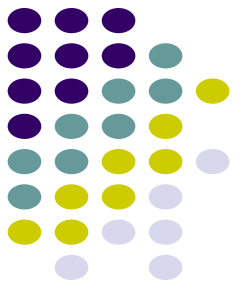
Shelby Tankersley
Hometownlife.com

Published 8:09 a.m. ET April 22, 2022



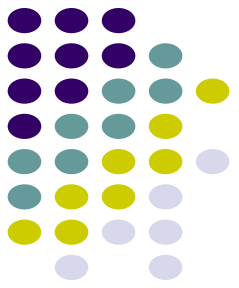
A rendering of what Tattan Park in Westland will look like in 2023. Courtesy Of The City Of Westland

A Tax Calculator for Residents Coming Soon



LivoniaBuilt.org

The Last Time the City Invested 1999



**GRATE PHOTO BY
BRIAN KIRKSEY**
**Livonia
Mayor
Jack Kirk-
sey and
city coun-
cil shovel
dirt dur-
ing the
ground-
breaking
ceremony
of the new
rec center
Thursday.**



Officials break ground for recreational cornerstone

**BY ALICE ASHMORE
STAFF WRITER
aashmore@ee.homecomm.net**

A row of polished shovels – that no construction worker would be caught dead with – gleamed in the afternoon sun as local dignitaries officially broke ground for the Livonia community recreation center.

More than 100 people gathered in the sweltering heat on Thursday to celebrate the beginning of the project.

“We’re here to celebrate a very special occasion – full of excitement and full of promise,” Livonia Mayor Jack Kirksey said.

“We will have the ability to meet community and recreation needs of our community.”

The most important aspect of the project is that it is expected to help influence the demographics of the city, the mayor said.

“We can continue to attract young families,” Kirksey said. “We are trying to balance the demographics of the community and we will do it with this institution.”

The rec center is being built adjacent to Five Mile and Hubbard, near the old Bentley High School.

Superintendent of Schools Ken Watson was the last principal at Bentley High School.

“It’s a very sentimental and historical site for me,” Watson said.

“The best legacy for Bentley High School will be the recreation center. It represents what Livonia is all about.”

City Council Member Jack Engbretson declared it, “A great day for our community.” The rec center

will continue to make Livonia a great place to live and raise families, the councilman said.

“On the quality of life issue, this is the finishing touch,” Engbretson said.

Wayne County Prosecutor Mike Duggan, who chaired the millage campaign for the rec center, said “Wow, this is a great day for me. I grew up a mile from here.”

Duggan shared fond recollections of playing youth baseball on fields near the site.

The rec center will keep kids busy with healthy activities, which is important, Duggan noted.

“Whether parents want to face it or not, the harsh realities are that by eighth grade, one-half of students will try alcohol; and by 10th grade, one-half will try illegal drugs,” he said.

Duggan said having a place for families to spend time together helps combat those problems.

Engbretson added, “The mayor deserves great accolades for having the vision to have promoted this idea.”

The project is not a matter of trying to compete with rec centers in neighboring communities, Duggan said.

The new rec center will include two gyms, a lap pool and a leisure pool, a gymnastics center, a fitness center, a running track, a climbing wall, a children’s play area and a senior citizens lounge.

Kenneth Noumann, architect for the project, believes the new center will be visually stunning.

“We believe the building will have a ‘Wow’ factor,” he said.

The \$30 million project is expected to be completed in early 2003.



DRAFT ONLY

MUNICIPAL FACILITIES PROPOSAL

Shall the City of Livonia, County of Wayne, Michigan, borrow the principal sum of not to exceed One Hundred Fifty Million Dollars (\$150,000,000) and issue its general obligation unlimited tax bonds, in one or more series, payable in not to exceed twenty-five (25) years from the date of issuance of each series, for the purpose of paying the all or part of the cost of acquiring land and buildings for use by the City, and acquiring, constructing, renovating, furnishing, and equipping various capital improvement projects and municipal facilities in the City, including necessary rights of way, site improvements, appurtenances, attachments and ancillary facilities therefor, including, but not limited to, (i) acquiring, constructing, furnishing and equipping a new police station with adjacent parking structure and a new library, (ii) renovating, expanding, improving, furnishing and equipping Fire Station Nos. 1, 3, 4, 5, and 6, (iii) acquiring, constructing, equipping and providing recreational facilities within a public greenspace, (iv) demolishing existing buildings located on public use spaces, including but not limited to, the existing police station, the existing library, and the existing City hall, (v) improving the City owned property at the Five Mile Road and Farmington Road civic center campus site, together with all related site improvements?

If approved, the estimated millage to be levied in December 2025 is 1.4300 mills (\$ 1.43 per \$1,000 of taxable value) and the estimated simple average millage rate required to retire the bonds is 1.4300 mills (\$1.43 per \$1,000 of taxable value).

CAPITAL OUTLAY AND INFRASTRUCTURE COMMITTEE MEETING
WEDNESDAY, MARCH 12, 2025
7:00PM

A Capital Outlay and Infrastructure Committee meeting was held on Wednesday, March 12, 2025, in the Livonia City Hall Auditorium.

Committee Members Present: Rob Gjonaj Donovic, Chair
Martha Ptashnik, Vice Chair
Carrie Budzinski, Member

Committee Members Absent: None

City Council Members Present: Brandon McCullough
Lynda L. Scheel
Laura M. Toy

**City Officials
and Others Present:** Maureen Miller Brosnan, Mayor
Susan Nash, Treasurer
Lori Miller, Clerk
Sean Kavanagh, Judge
James Jolly, Judge
Carter Fisher, City Attorney
Dave Varga, Chief of Staff
Debbie Lichtenberg, Finance Director
Mark Taormina, Planning and Economic Development Director
Ted Davis, Superintendent of Parks and Recreation
Thomas Goralski, Police Chief
Robert Jennison, Fire Chief
Linda Gosselin, Assessor
Jerome Hanna, Director of Inspection
Kristen Edson, Library Director
Kristin Houchins, Director of Communications
Anthony Hall, Police Union President
Scott Heraty, Fire Fighter Union President
Plante Moran Realpoint Representatives

1. The subject matter of the planning, design and construction of the new Civic Center Campus. (CR 330-24)

The meeting convened at 7:02 PM.

The meeting began with a discussion of the following:

- Chairman Donovic explained Council meeting structures and procedures to significant audience size and how the meeting agenda was going to proceed.
- Chairman Donovic explained that this isn't the first meeting held on this item, and that this project was first established back in 2018 through Livonia Vision 21.
- Multiple members of the Council gave remarks around the meeting.
- Project management team was introduced by Administration.
- Multiple vendors were introduced from HED (Master Planner & Architect for City Hall).
- Mayor explained the first phase in the project was the building of the new Senior Wellness Center, (Project Catalyst) primarily funded by Federal, State, and County dollars that wanted to fund a senior center specifically.
- This is a long-range plan, first established in Vision 21, unanimously voted on by the Council in 2020 that specifically calls for 5 Mile & Farmington Rd to be a Civic Center/ Downtown campus.
- The city owns roughly 70 acres at this corner.
- Livonia Vision 21 surveyed thousands of residents in 2017/18, held countless Open Houses, dozens and dozens of residents and vendors drafted Vision 21 years ago, now the Administration wants to implement the plan, not just let it sit on a shelf.
- There was a study conducted in the 1980's that talked about building a downtown area to attract younger families to our community.
- This planning has been going on for longer than a year and a half with many public open meetings.
- Vision 21 is a city-wide policy for all things zoning and future land use planning and guidance for the future of our community.
- The Administration has exhausted all federal, state, and county funding sources, which was important to the Administration. They have also looked for areas to cut within the general fund and be fiscally responsible.
- The Administration talked about the city hall, police department, and library reaching the end of their useful life. It would be more economical to demo these old, poorly built buildings, than to reinvest into them and continue to spend tax dollars on aging functionally obsolete city buildings that are too large, not ADA accessible, and poorly built.
- The city conducted an asset management plan of all city buildings to inventory building issues and capital expenditures. This is the first time the city has conducted an asset management plan in city history.
- The Administration talked about how much it will take to update and maintain existing buildings, which is north of 97 million dollars over the next 10 years.
- This means just updating these city buildings to "Good Status."
- Every year that goes by, the cost to renovate city buildings to good status goes up.
- The Administration is proposing to build smaller, more efficient buildings.
- The city is building the senior center next door to the rec center, relocating it.

- Survey hundreds of seniors, had representatives from the aging commission, and senior center staff all served on the planning committee for the Senior Wellness Center.
- The vacant courthouse has been vacant since 2015.
- The Administration is purposing to clear roughly 9.5 acres in the first phase, which is the first block that can be cleared.
- Plante Moran Real-Pointe, the cities real estate advisor says for a successfully project, the city needs to make at least 20 acres available.
- City Hall will be roughly 40 million dollars to be built, being designed by HED. Council approved Frank Rewald & Sons as the general contractor to build.
- City Hall is roughly 96,000 sqft, the space needs assessment conducted by PMR, says we only need roughly 50,000 sqft.
- Savings from the shift in retiree healthcare to Medicare advantage plus, freeing up roughly 2.4 million a year in annual city contributions that now are unapproached in the general fund. These funds were cover the bond payment (mortgage payment) to build city hall.
- In December of 2023, Council took the initial step to approve bond language up to 47 million dollars. Council will formally approve or deny this bond later this year.
- Phase 2 of land clearing would include the clearing of City Hall proper.
- In 1967, there were new articles of City of Livonia planning to build this area as a downtown, but no one ever formally acted on these plans.
- Phase 3 would be to demo the police department, see a new library, central park, bike loop, and significant updates to the various fire stations.
- The existing Police Department is built on a high-water table and is an addition to a former water department building.
- Is not ADA accessible, doesn't have proper facilities for women, inadequate training facilities for officers to do physical fitness training and various other issues.
- The fire stations are in good locations, proper sizing, but need updating to existing faculties.
- The Robert & Janet Bennet Civic Center Library is many years behind similar communities in metro Detroit.
- It is far too big and inefficient, can be roughly 50,000 sqft.
- Phase 4 would be to attract private sector developers for residential and commercial/retail.
- City builds the central gathering/ park area, private developers build their residential and retail projects.
- HED is currently working on conceptual plans that will continue to evolve and grow/ change. Nothing is finalized yet.
- There was significant discussion about combined a new City Hall and Library into one building. There are cost savings by combined various building systems, stairwells, elevators, HVAC, electrical, and plumbing systems.
- There are still significant discussions that need to take place, but the goal is to activate the municipal building and that there are many pros to a combined building. They would still maintain their unique services but provide great amenities to the community and be a fiscally responsible building.
- HED (hired master planner) has over 25 years of public planning projects, they have partnered with Design Works, to bring high-level design to the entire plan.
- The Administration talked about the potential bond would only found city buildings, city infrastructure and greenspace, not private development.

- The city wants to improve library services and programming with a new combined City Hall and Library. This provides more flexibly.
- The private development community will analyze the master plan and build private development, guided by our master plan.
- We want to promote people on streets, street parking, city center environment.
- There was a lot of talk about green space and how large the central gathering area will be.
- A lot of discussion around parking and biking.
- There was a lot of discussion around funding and what that could potentially look like.
- The city wants a destination for not only Livonia residents, but for people in Metro Detroit to come to our city, shop in this district and live nearby.
- The potential millage would fund city buildings, gathering area, and underground infrastructure. Those numbers will be explained at the next Committee meeting, April 2nd, 7:00pm at City Hall.

The meeting adjourned at 10:26 PM.

The Committee recommends:

- Item will stay in community for further discussion.

Note: This item will remain in Committee.

This meeting will be reported at the **Regular Meeting of April 14, 2025.**



Robert Gjonaj-Donovic, Chair

CAPITAL OUTLAY & INFRASTRUCTURE COMMITTEE MEETING
WEDNESDAY, MARCH 12, 2025, 7:00PM

NAME

DEPT OR CONTACT INFO FOR NOTIFICATIONS*
*PERTAINING TO THE SUBJECT MATTER OF THIS MEETING

Jennifer Kankula	7344662491 Library
April Bornusch	313-303-8659 Library
Nicholas Pickard	313-638-0352

DAVID CORDS

Deeuge Miller	248-231-1943
Alex King	248-884-6460
Frances Tunny	213-910-6037
CHERR BERNHARD	734-744-7964
Spencer Meeks	734-542-1307
Kathryn Huyghe	313-247-8389
DONNA WALKER	734-634-8888
Bill McEvoy	734 427 2633

Mike Obk.

Patricia Rabichue

Gini Krenz

Burt Iovan

Maureen Stuenkel

John Schaler

Lisa Fresh

DAVE MacFARLAND

CAPITAL OUTLAY & INFRASTRUCTURE COMMITTEE MEETING
WEDNESDAY, MARCH 12, 2025, 7:00PM

NAME

DEPT OR CONTACT INFO FOR NOTIFICATIONS*
*PERTAINING TO THE SUBJECT MATTER OF THIS MEETING

Eileen McDonnell

Lauren + Stephanie Ladd

DAVE LUNCEY

Cindy Fleming

Meghan Rokita

Jenny O'Connor

Jeanette & Chris Oswell

Clare Shelton

CARIE RICKMAN

Chris Hensch

Peter Dale

Barla Tuxall

Diane Wilson

ELON MCK

Patty Riggio

Julia Peronis

JIM BRAWNGWAUS



Project Catalyst

REALIZING LIVONIA VISION21



70%

of Livonia
residents want a
**CITY
CENTER**

Based on the 2024 Livonia Community
Satisfaction Survey of ~4000 Livonia residents

Livonia



Livonia experienced a **2.8% decline in population size** (2,747 people) from 2010 to 2017. which was not mirrored by western peer suburbs.

DEFINING THE CHALLENGE

In 2017 thousands of Livonia residents came together around a problem –

Livonia's population was decreasing, while at the same time the age of our population was increasing.

Livonia	-2.8%	(-2747 residents)
Plymouth Township	+0.2%	(+42)
Northville Township	+7.9%	(+2253)
Canton Township	+4.0%	(+3618)
Farmington Hills	-0.3%	(-243)
Lyon Township	+28.6%	(+4163)
All of Wayne County	-1%	(-8244)

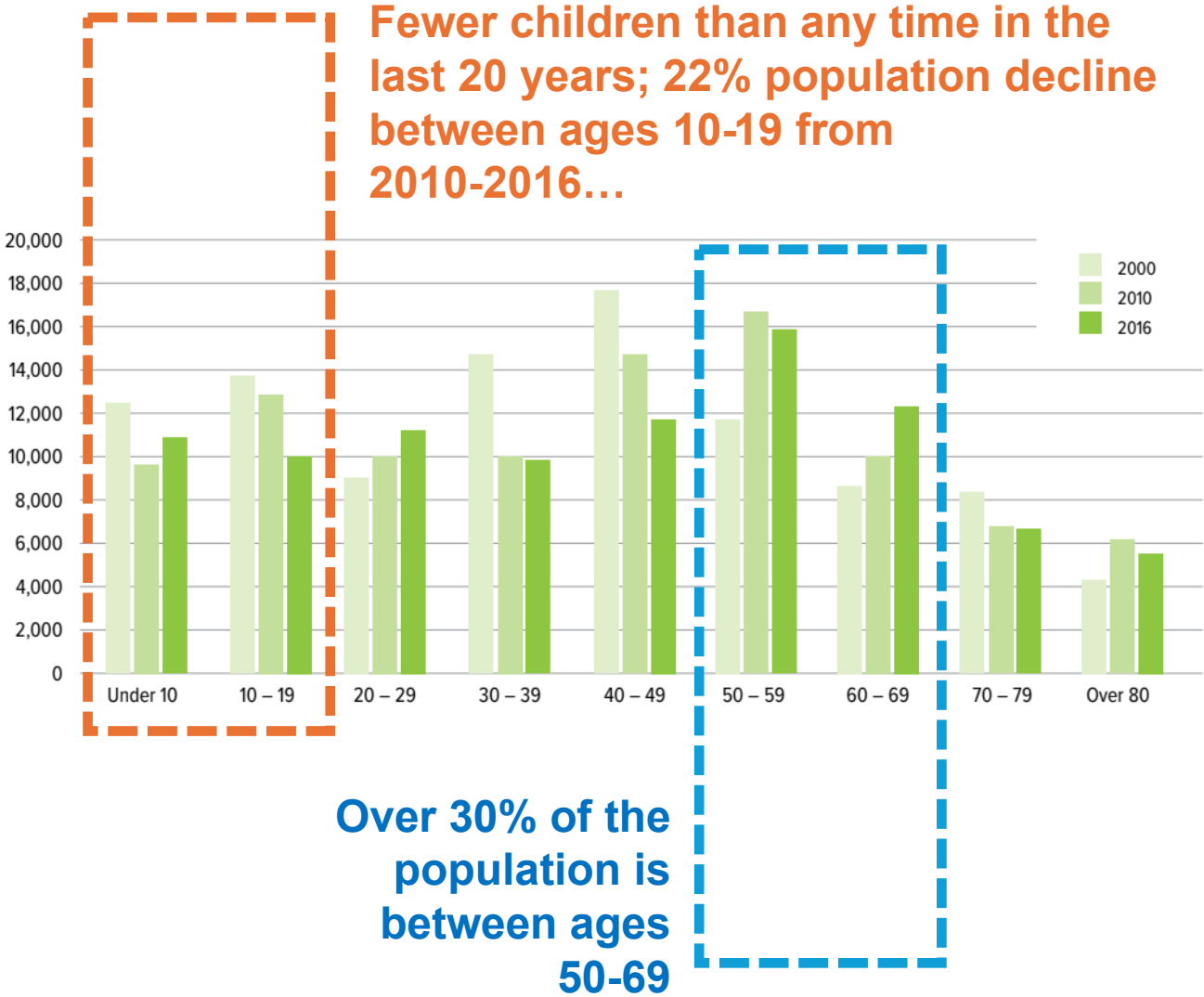


DEFINING THE CHALLENGE

In 2017 thousands of Livonia residents came together around a problem –

Livonia's population was decreasing, while at the same time the age of our population was increasing.

The **median age** of residents is 44.7 years old, an increase from 40.2 years old in 2000.





Focus of Livonia Vision 21: Blueprint for the Future



Mark Taormina
Planning and Economic Development
Director City of Livonia



LIVONIA V21
STARTS NOW



Signing the Livonia Vision 21 Zoning
Ordinance October 12, 2021

FEBRUARY 2024

Highest and Best Use Options Study

Livonia City Center Site - 5 Mile & Farmington Road

Presented to: City of Livonia





LivoniaBuilt.org

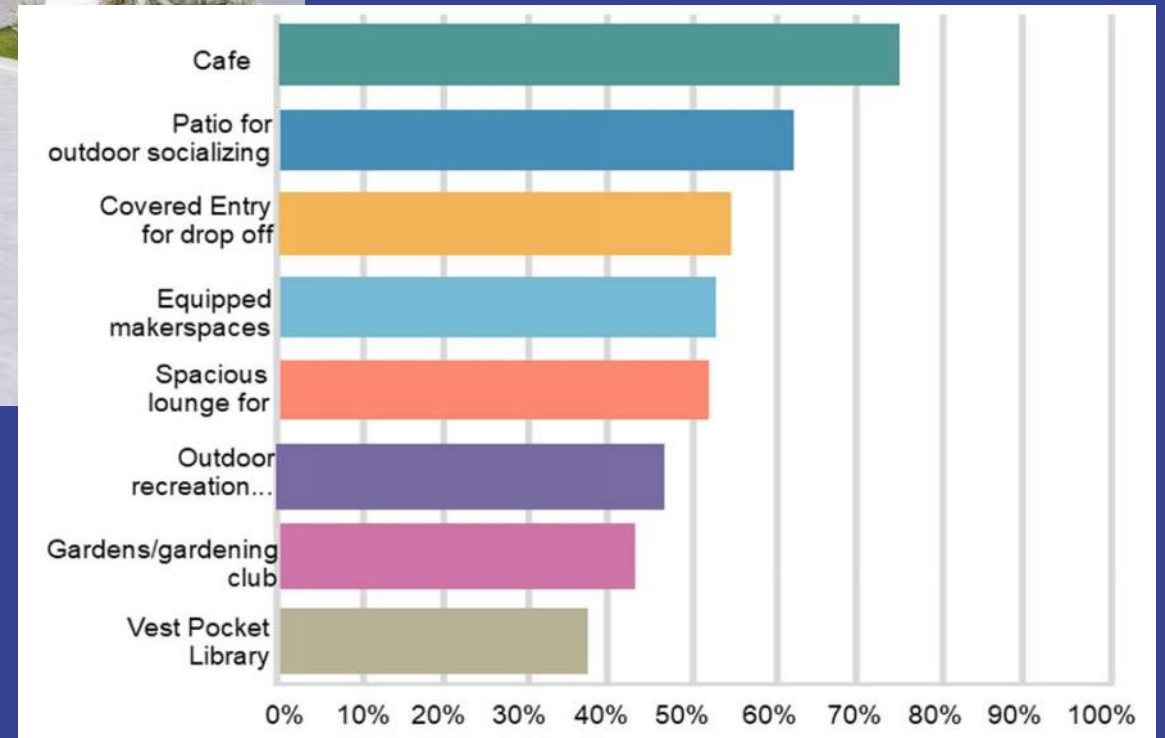
The American Rescue Plan Act initiated \$1.9 trillion in economic stimulus funds and we worked to secure \$20.75 million for Livonia





PROJECT CATALYST

LIVONIA SENIOR WELLNESS CENTER



PHASE ONE – NEW SENIOR WELLNESS CENTER



- Coming Winter 2025
- \$27.8 million investment
- Funded by American Rescue Plan funds from federal, state, county and city government
- 30,000-square-foot Wellness Center and Rec Center improvements
- Hubbell Roth & Clark Architects
- PCI Dailey Construction Manager



Livonia Police
Department

Larry Nehasil Park





PHASE TWO – NEW CITY HALL & CITY CENTER MASTER PLAN



- Coming 2027-28
- \$40 million investment
- Funded by bonds issued by the City of Livonia
- HED (Harley Ellis Devereaux) Architecture and Engineering
- Frank Rewold & Sons Construction Management



Livonia Police
Department

Larry Nehasil Park



» MOMENTUM BUILDS

CRAIN'S DETROIT BUSINESS
A CRAIN FAMILY BRAND

Livonia wants to build a downtown. First, it has to tear down city hall.

By Elizabeth Schanz/Crain's Detroit Business/02.04.25

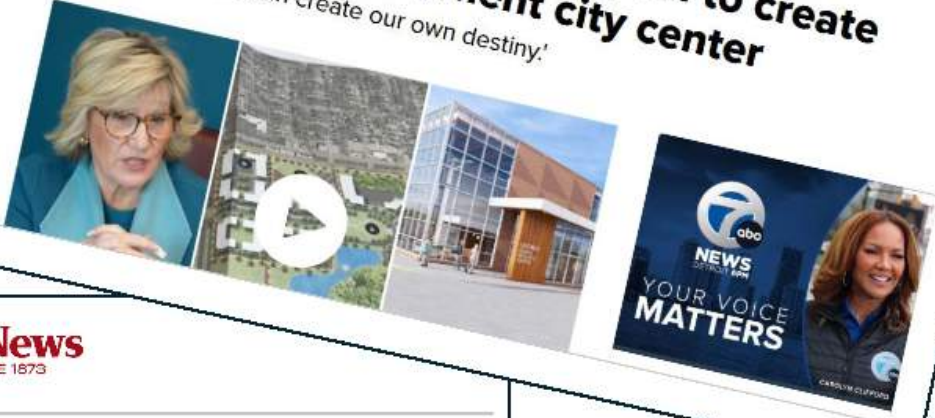


7abc WXYZ DETROIT

NEWS

Livonia moves ahead with plan to create mixed-use development city center

'This is where we can create our own destiny.'



The Detroit News
SERVING MICHIGAN SINCE 1873

WAYNE COUNTY

Town without a downtown: Livonia looks to develop a Main Street after 75 years

 **Julia Cardi**
The Detroit News

Published 11:00 p.m. ET Jan. 14, 2025 | Updated 11:59 p.m. ET Jan. 14, 2025

LIVONIA V21
STARTS NOW

New City Hall for Livonia

By JOHN J. CAMPER

Detroit News Metropolitan Bureau

LIVONIA — Construction should begin next year on Livonia's new city hall.

The building, expected to be at least five stories high, will be built behind the police station and water department buildings, immediately south of Five Mile and east of Farmington road.

It is to be the focal point of an ambitious civic center plan drawn by the city's planning department.

The civic center scheme, which will be released within a few weeks, will include a city hall, courthouse, auditorium and convention center. There are provisions for hotels and high-rise apartments.

THE CITY'S Municipal Building Authority recently hired the architectural firm of Alden B. Dow Associates Inc., of Midland, to design the city hall.

The firm will begin interviewing city department heads next week to determine space needs.

Harvey C. Allison, vice-president of the firm, said the architects should have schematic drawings of the city hall ready this summer.

The new building actually will be owned by the Municipal Building Authority, which technically is not part of the city government.

The authority will sell 40-year bonds to finance the city hall. It will then rent the building back to the city at a rental rate sufficient to cover interest and principal on the bonds.

WHEN THE BONDS have been paid off through the rental, the building will become the city's property.

The advantage of this type of financing is that the city could raise property taxes to pay the rent without a vote of

the people, said David L. Jones, chairman of the authority.

After the architect has placed a price tag on the building, it probably will take about six months to get approval of the bonds from the state's Municipal Finance Commission, Jones said.

If everything goes according to schedule, Jones said, the building could be completed in about three years.

Dow officials are refraining from estimating cost or size of the new building until their needs studies are complete.

BUT BY COMPARISON, the firm designed a seven-story, \$2.5-million city hall for Ann Arbor, which was completed in 1963. Ann Arbor has an estimated population of 95,000, including 32,000 University of Michigan students. Livonia's population is about 100,000.

The Dow firm was chosen over 11 others, Jones said,

because of its extensive experience in designing high-rise buildings.

It designed the Matthai Recreation Building and the student center at Wayne State University and the U-M's Institute of Social Research and botanical gardens at Ann Arbor.

Dow agreed to do the initial work and schematic drawings for a fee of not more than \$12,000. If the building plans are approved by the city council, Dow will receive a percentage of the building costs.

Livonia's city offices are located in a half-dozen buildings scattered along Farmington and Five Mile. The present city hall probably would become part of the city's library system when the new building is complete, Jones said.

SINCE LIVONIA is expected to reach a population of 175,000 by 1985, one of Dow's major headaches will be pro-

viding for expansion of city offices.

City officials had advised against incorporating courtrooms into the city hall, since Livonia's municipal court may be replaced by a district court under the state constitution's proposed judicial reorganization.

But Allison suggested letting the court use the new building "until 1973 or so. Then it could go into a separate court building and expanding city offices could take over the space the court vacated."

A suggestion that the plans provide for additional floors at a later date was rejected by Alden B. Dow, president of the firm, as "an awkward thing to do gracefully."

But Jones has suggested building the building several stories higher than presently needed and renting the vacant floors to private firms. The firms could be asked to leave as the city needed extra space.

Alden B. Dow Archives
315 Post Street, Midland, MI
Copied for reference only.
Copyright restrictions apply.

PHASE THREE – NEW POLICE STATION, RENOVATED FIRE STATIONS, NEW LIBRARY, NEW CENTRAL PARK, NEW BIKE LOOP



- Coming Winter 2028
- Funded by resident-supported millage
- NEW Police Station
- NEW Robert and Janet Bennett Library
- RENOVATION of Main Fire Station and all four secondary fire stations
- ADD central park with amenities including a passive nature area and bike loop

PHASE THREE – PROJECT UPDATE



- Plante Moran Realpoint, owner's representative
- HED (Harley Ellis Devereaux), architect/city center master plan
- Hobbs & Black, architect/police station
- Spalding DeDecker, site survey and traffic study
- OHM (Orchard Hiltz McCliment), civil engineering
- Plante Moran, PLLC, technology consultant services



PHASE FOUR – RESTAURANTS, RETAIL AND RESIDENTIAL DEVELOPMENT



Suwanee, GA Town Center

- Coming Winter 2028/29
- Funding to be determined; options include public private partnerships, lease, sale or any combination of the above
- Restaurants, retail and more places for people of all ages to live

Livonia Vision 21 City Center Timeline

Together We Build Tomorrow

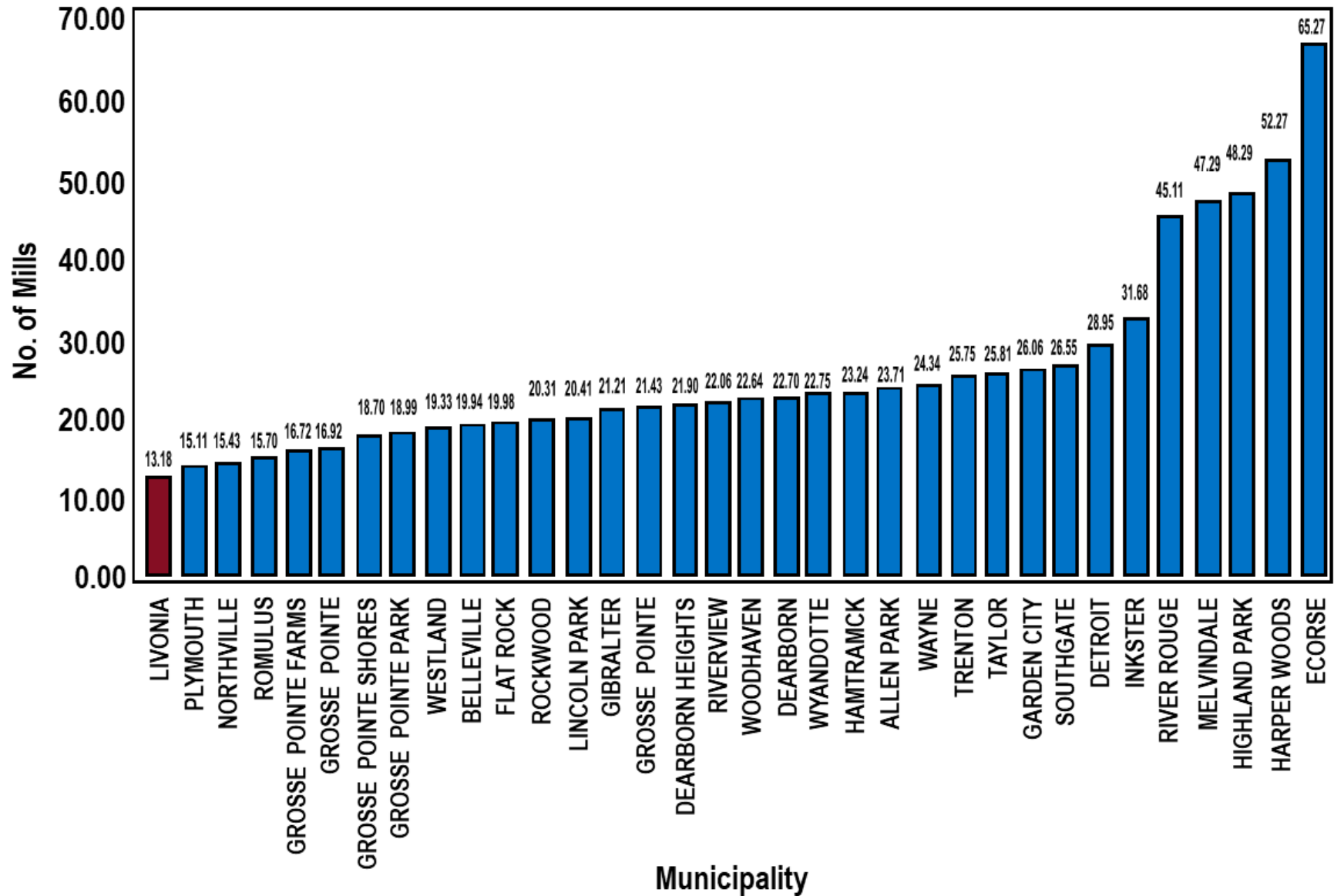


Visit
LivoniaBuilt.org
for details

**#Livonia
BUILT**



CITY TAX RATE COMPARISON (2022) WAYNE COUNTY, MICHIGAN

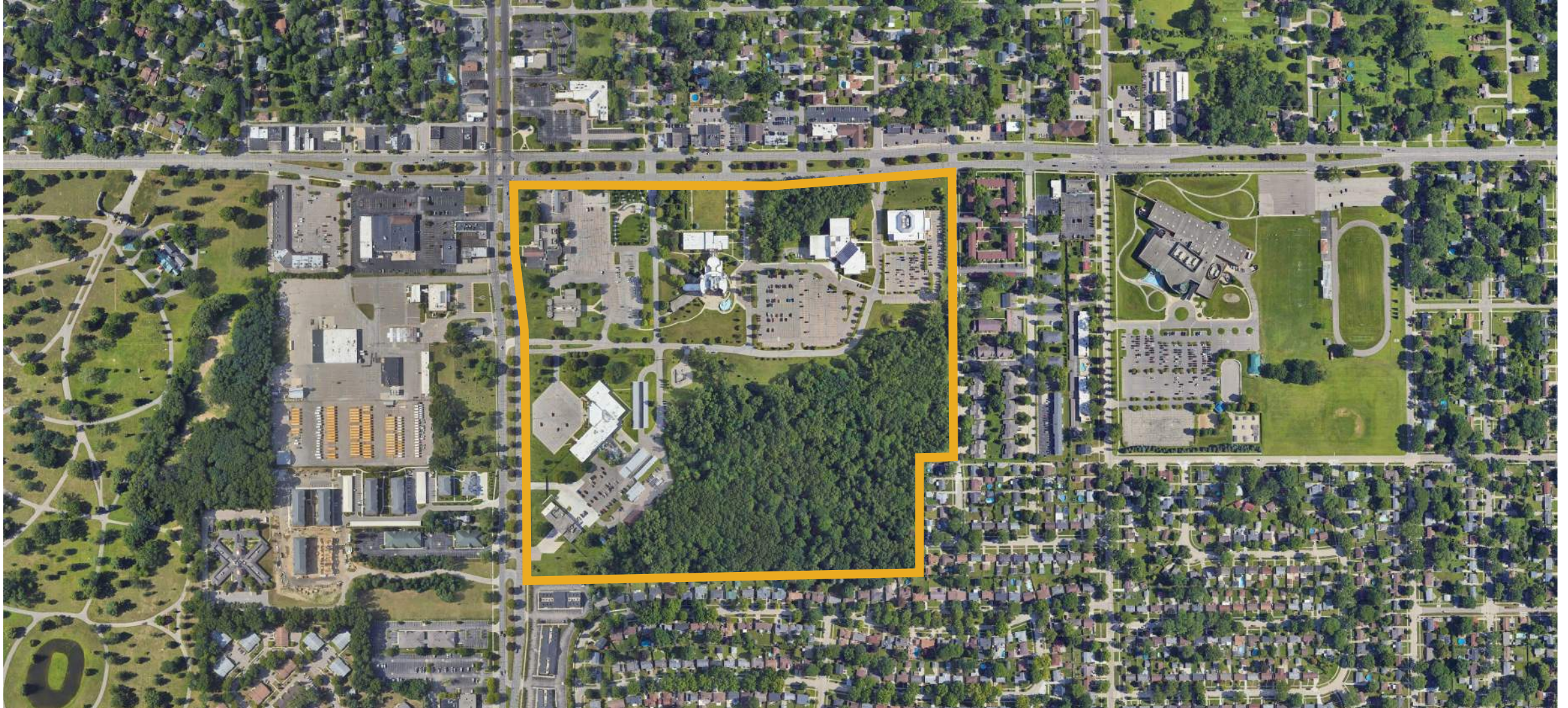




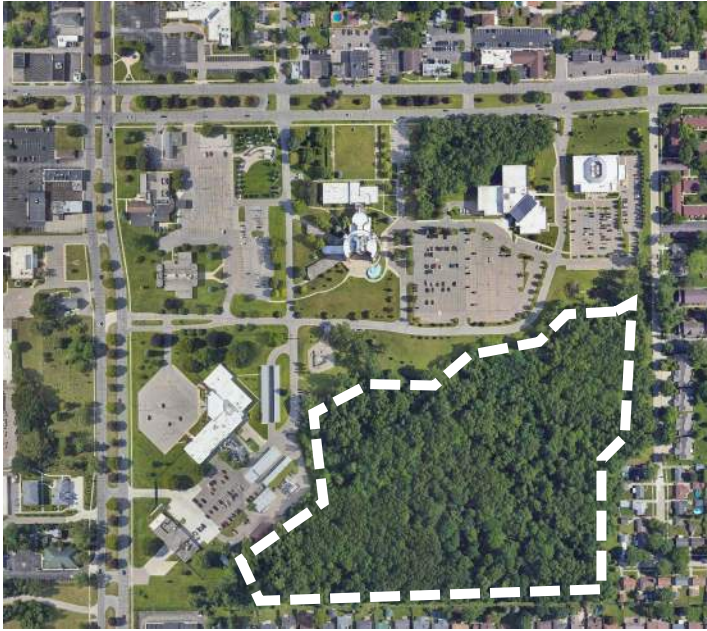
CITY OF LIVONIA: COUNCIL AND COMMUNITY UPDATE

AUTHENTIC MOVES

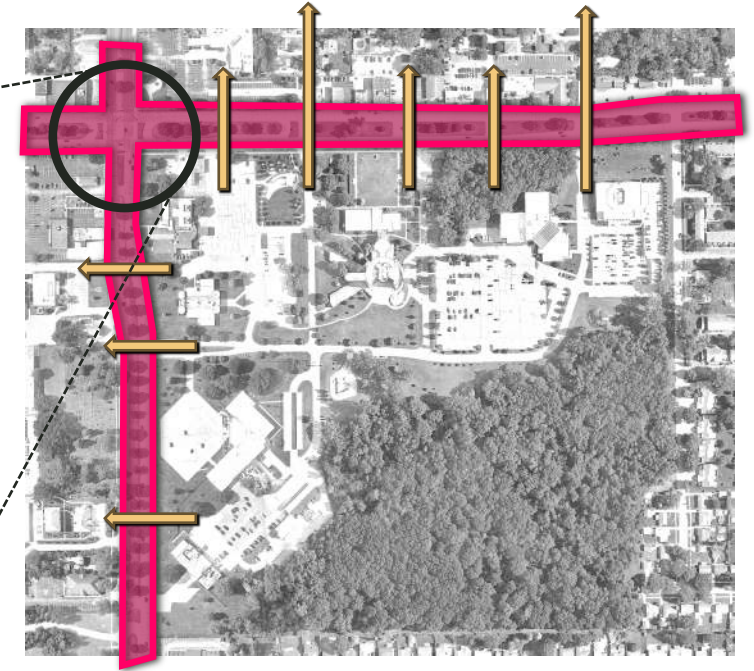
APPROACH / The Master Plan is built around existing site assets and Livonia's "WHY".



FRAMEWORK / Existing local and regional conditions inform the plan's strategic direction

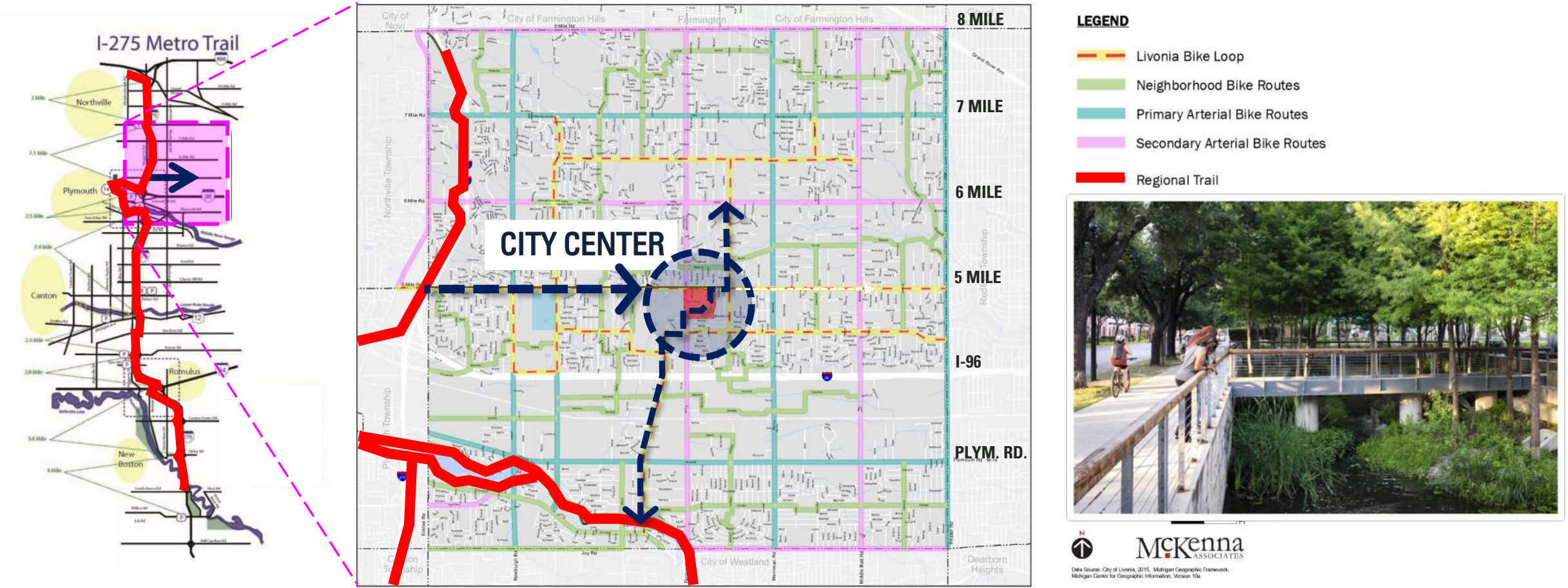


The **woods** are a unique asset, and a buffer to the **surrounding neighborhood**

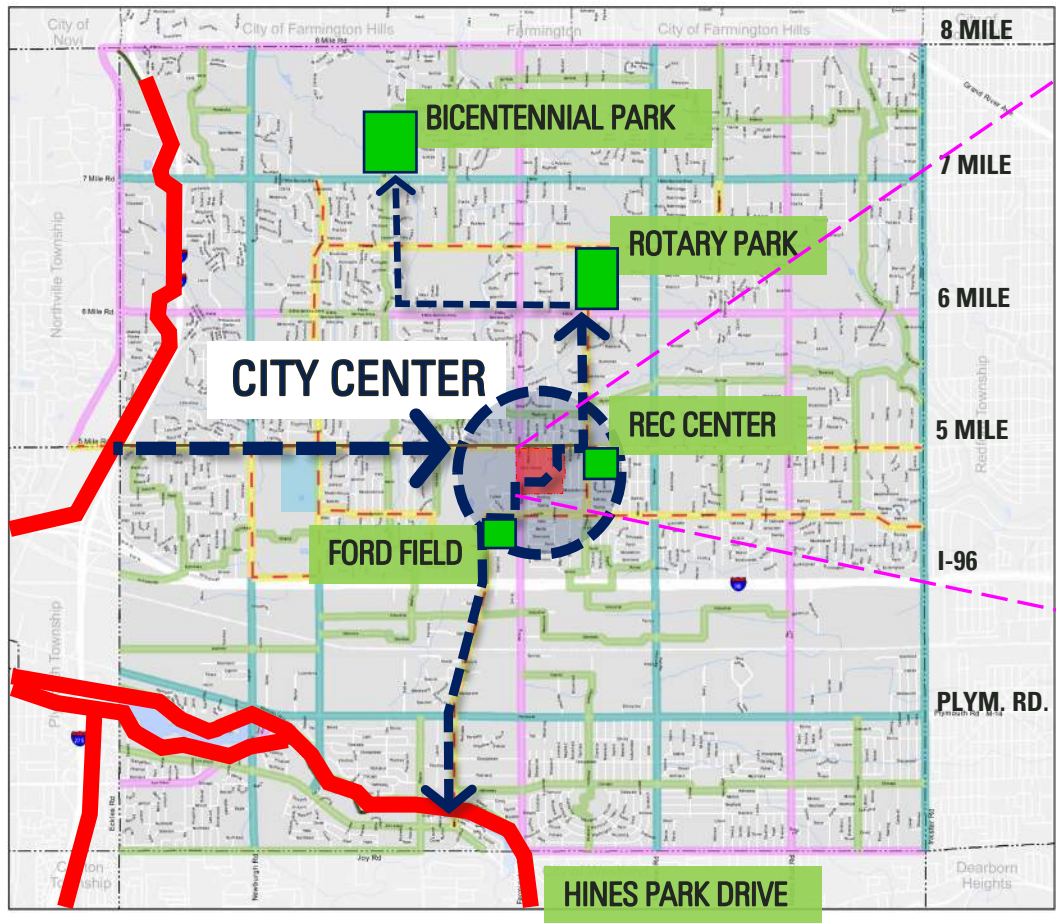


The intersection of 5 Mile/Farmington offers **high visibility** with many direct connections to the existing **street grid matrix** to help the plan expand over time...

FRAMEWORK / Existing local and regional conditions inform the plan's strategic direction



FRAMEWORK / Existing local and regional conditions inform the plan's strategic direction



THE GREEN CONNECTOR
Prioritizes connection to other civic sites in the community and sets up stewardship of the woods edge

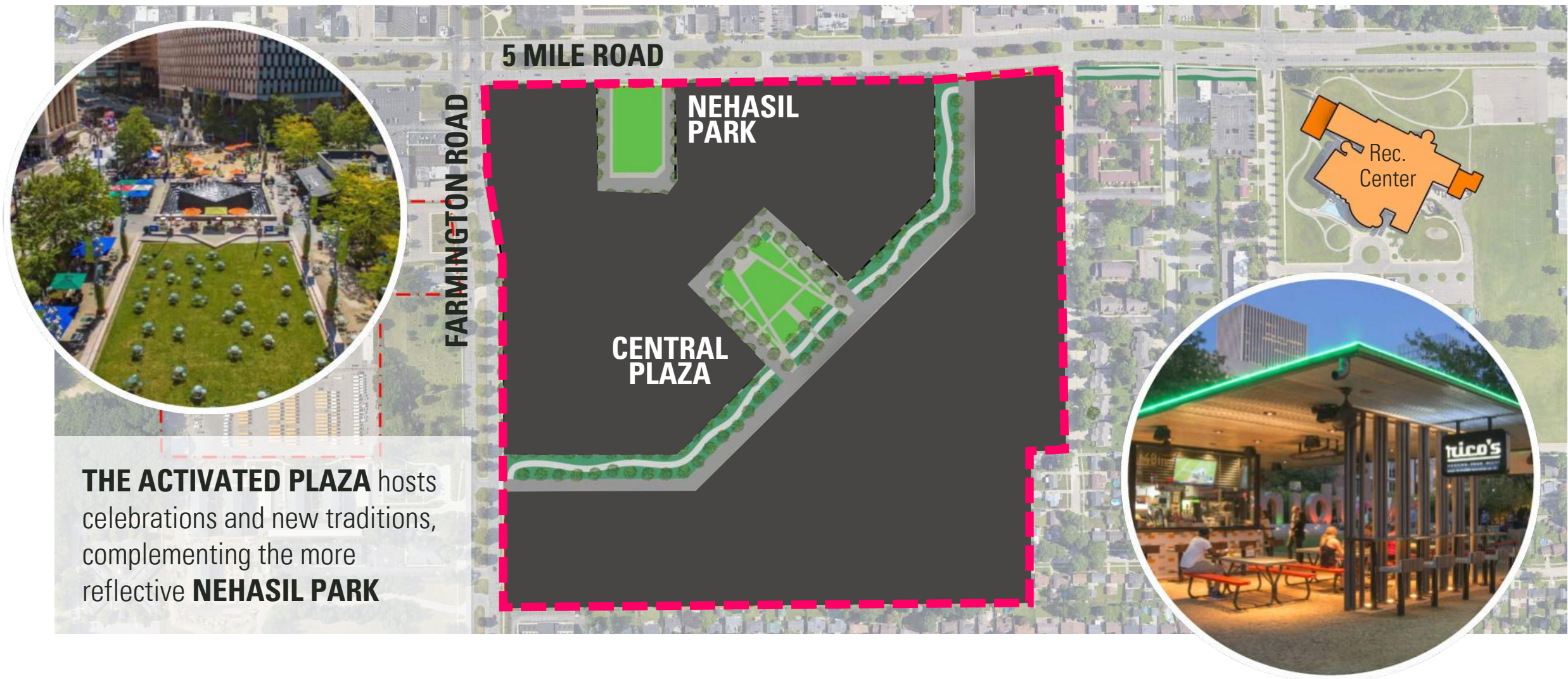
AUTHENTIC MOVES / Look at ways to make the project “uniquely Livonia”



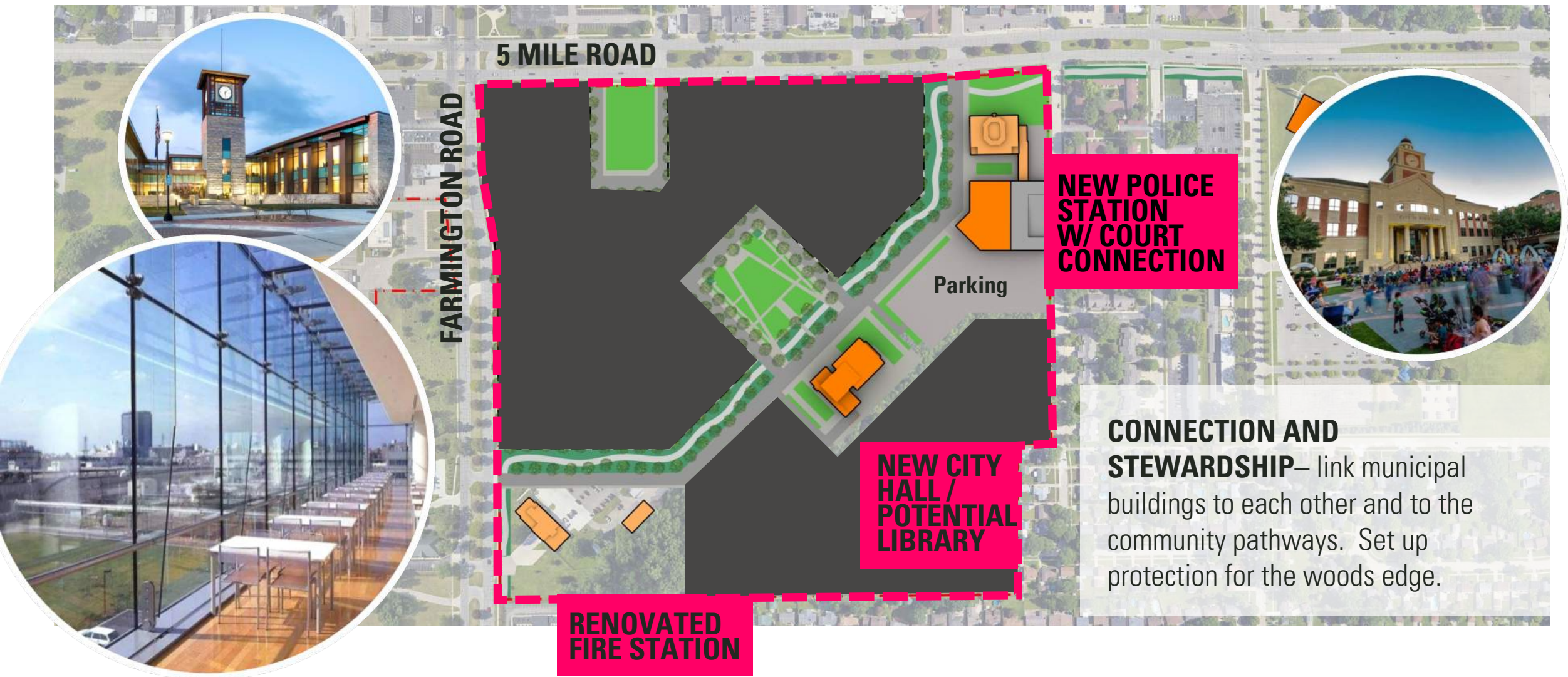
AUTHENTIC MOVES / Be the center of a connected, healthy community



AUTHENTIC MOVES / Be the heart of Livonia's celebrations and traditions



AUTHENTIC MOVES / Grant municipal facilities stewardship of the woods edge along the greenway



AUTHENTIC MOVES / Maximize investment for community impact



AUTHENTIC MOVES / Smart moves set up for private sector investment



**SERVICES EVOLVE, BUT
LIBRARIES ARE MORE THE
HEART OF THE COMMUNITY
THAN EVER.**



**PROGRAMMING
FOR ALL AGES**

**COLLABORATION;
NEW WAYS OF
WORKING**

**CULTURE AND
TECHNOLOGY**

**PERSONAL
INTERESTS AND
DEVELOPMENT**

**CAMPUS AND
OUTDOOR
INTEGRATION**

**LIBRARIES
ARE DOING
*MORE.***

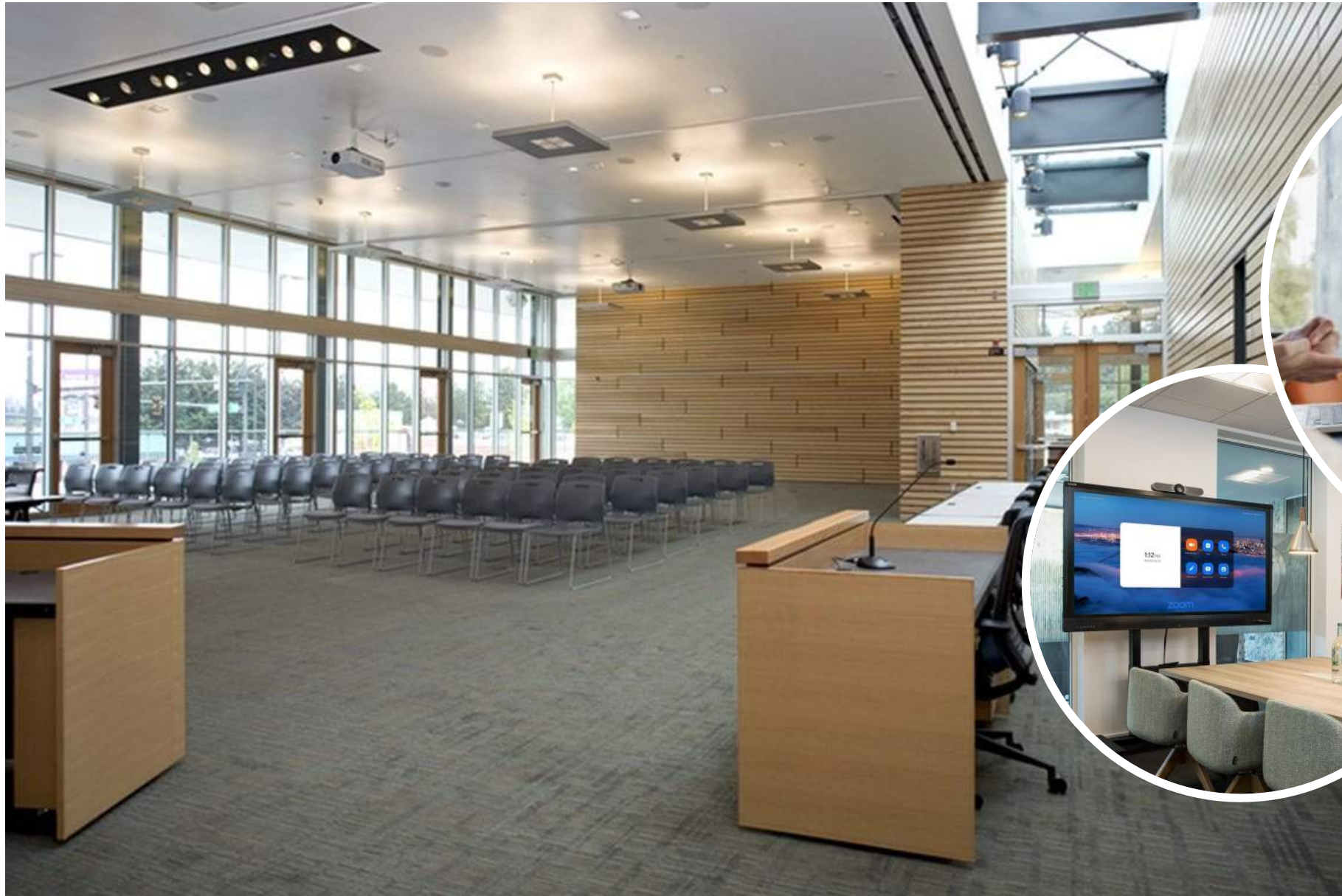
**AN \$18M INVESTMENT
WOULD UPDATE TO
CORRECT DEFICIENCIES, BUT
FALL SHORT OF KEY SERVICE
GOALS...**



**FULLY
ACCESSIBLE
FOR ALL -
SENIORS,
FAMILIES...**



**USER
FRIENDLY,
PLUG-AND-
PLAY**



**APPROPRIATE,
FLEXIBLE
MEETING
SPACE**

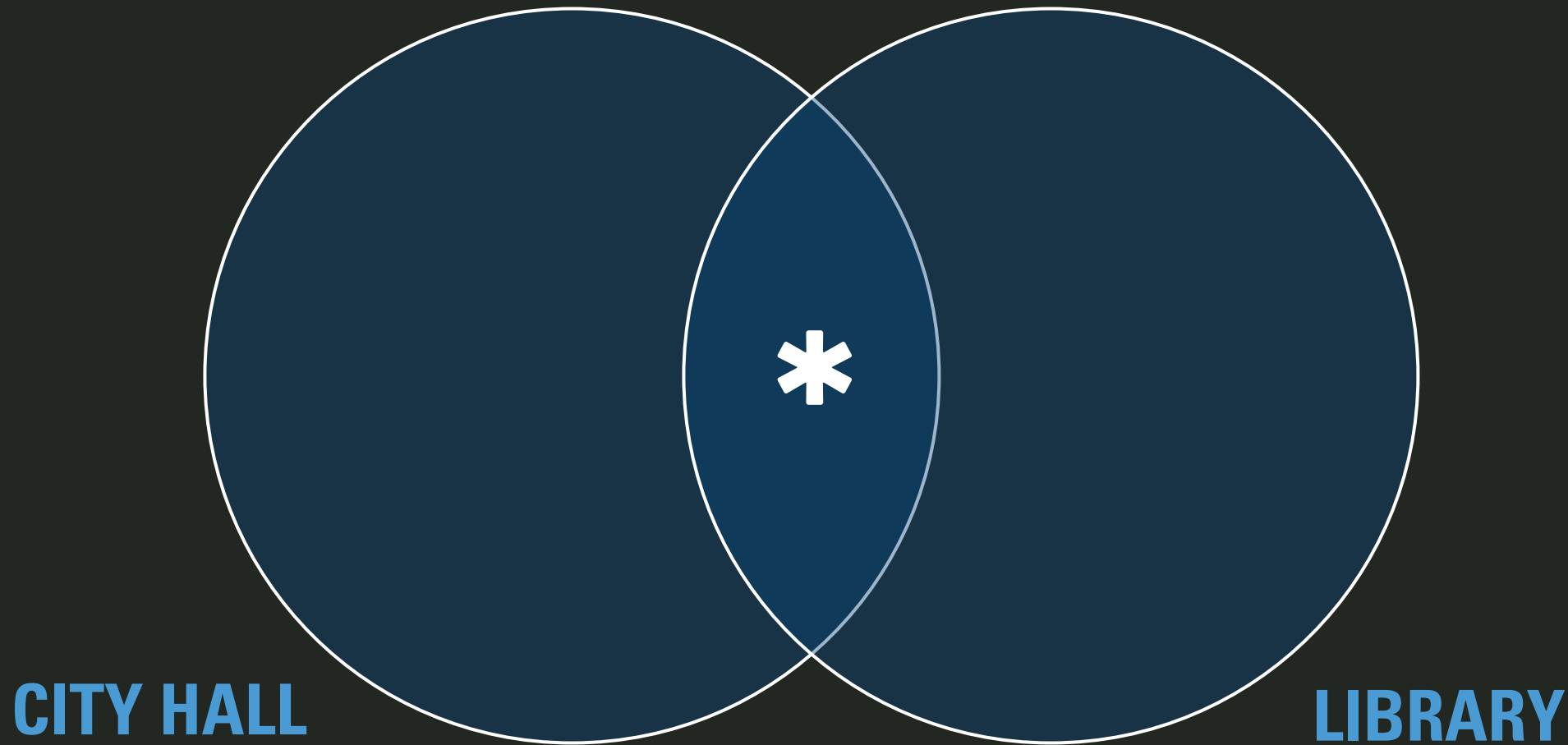


BRINGING IN
**CULTURE, ARTS
AND EXHIBITS**



ENGAGING
OUTDOOR
PROGRAM
AREAS

***GETTING SOMETHING MORE
THAN THE SUM OF THE PARTS.**



Why combine Library and City Hall / Impacts and Efficiencies

Combining the Library with City Hall offers synergies:

- **Activation of master plan public space:**
 - A single, more prominent building to define the plaza
 - A way to address diverse hours of operation
- **Flexibility:**
 - Potential to share program functions (meeting space, common space)
 - More flexibility in future use of total square footage
- **Savings:**
 - Leverage a “focal point” approach to right-size investment in costlier materials
 - Reduction in building envelope and shared systems
 - Combine infrastructure / elevators and circulation / toilets

FUTURE VISION

AUTHENTIC MOVES / Smart moves set up for private sector investment





Jonathan Adler

JONATHAN ADLER

CHERRY CREEK NORTH
FOOD & WINE

CHERRY CREEK NORTH
Welcome
FOOD & WINE
CherryCreekNorth.com

2015
ZEPHYRUS

outh St.
ivate Drive

king P
th Garage

STINGRAY
SUSHI • BAR • RESTAURANT

GRIMALDI'S

READY FOR SCHOOL
SET FOR LIFE

ready2go.com

STINGRAY
SUSHI • BAR • RESTAURANT





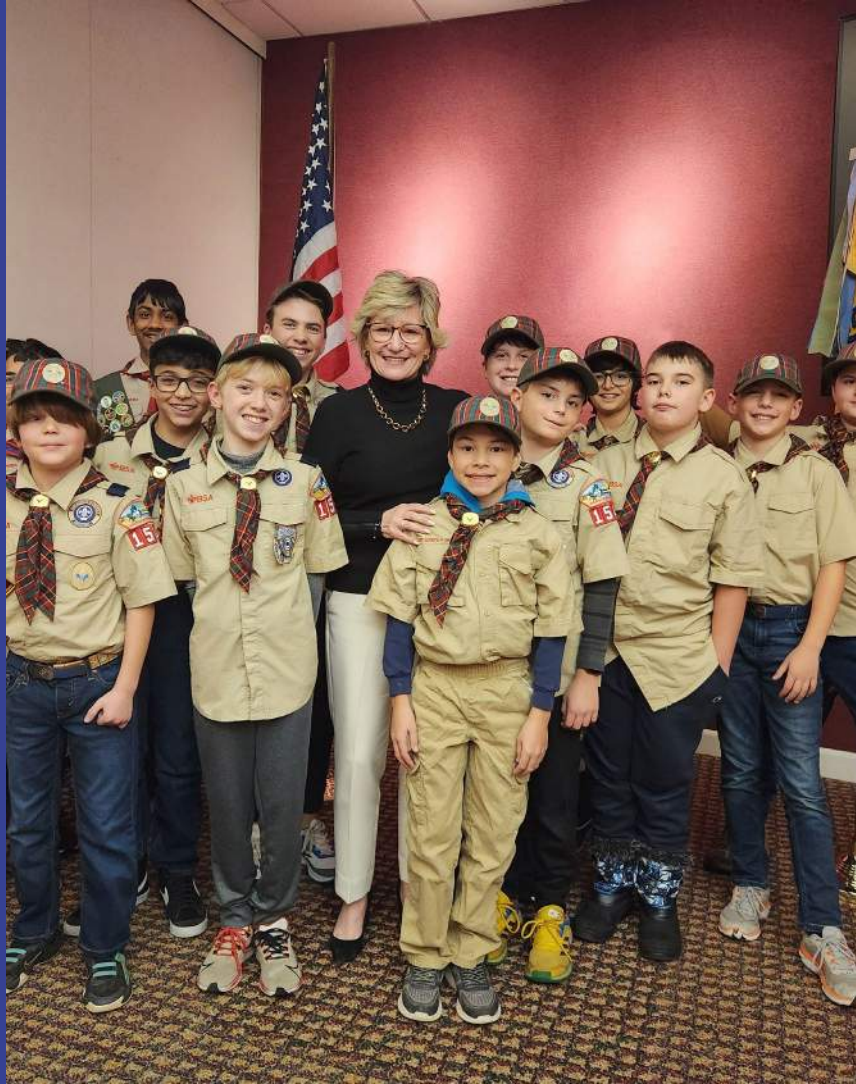










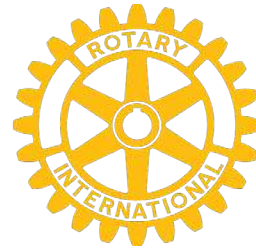


Together We Build TOMORROW



RESPONDING TO THE CALL

TOGETHER WE BUILD TOMORROW



CAPITAL OUTLAY AND INFRASTRUCTURE COMMITTEE MEETING
WEDNESDAY, FEBRUARY 5, 2025
7:00PM

A Capital Outlay and Infrastructure Committee meeting was held on Wednesday, February 5, 2025, at Livonia City Hall in the City Council Chambers on the 2nd floor.

Committee Members Present: Rob Gjonaj Donovic, Chair
Martha Ptashnik, Vice Chair
Carrie Budzinski, Member

Committee Members Absent: None

City Council Members Present: Lynda L. Scheel
Brandon McCullough

**City Officials
and Others Present:** Maureen Miller Brosnan, Mayor
Carter Fisher, City Attorney
Dave Varga, Chief of Staff
Debbie Lichtenberg, Finance Director
Mark Taormina, Planning and Economic Development Director
Ted Davis, Superintendent of Parks and Recreation
Plante Moran Realpoint Representatives
Plante Moran Technologies Representatives

1. The subject matter of the planning, design and construction of the new Civic Center Campus.
(CR 330-24)

The meeting convened at 7:04 PM.

The meeting began with a discussion of the following:

- Introduction of conceptual master plan
- The Administration and vendors are looking for cost savings and value engineering while maintaining integrity of new city buildings.
- There was talk about the future of the Civic Center Library and why or why not to invest into an aging outdated library.
- The administration is discussing potential ballot language to present to the City Council to fund the building of a Police Department, potential library, renovation to the fire stations, central gathering area, and underground infrastructure.
- The language needs to be sent to Council first, if Council approves the language, it is sent to the State and then County to be voted on by residents in August of 2025.
- Significant work is still needed. The administration is actively working on bringing all info to the Council and community.
- Renderings are only conceptual and will continue to evolve and grow with time.
- All meetings are open to the public and encourage the community to participate.

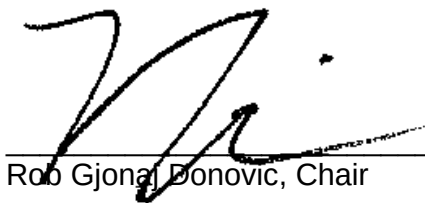
The meeting adjourned at 9:34 PM.

The Committee recommends:

- The item will stay in committee for further discussion.

Note: This item will remain in Committee.

This meeting will be reported at the Regular Meeting of February 10, 2025.



Rob Gjonaj, Chair

CAPITAL OUTLAY & INFRASTRUCTURE COMMITTEE MEETING
WEDNESDAY, FEBRUARY 5, 2025, 7:00PM

NAME

DEPT OR CONTACT INFO FOR NOTIFICATIONS*
*PERTAINING TO THE SUBJECT MATTER OF THIS MEETING

Ted Bant

P+R

MARY TACOMINA

PLANNING DEPT.

Betsy Calhoun

Greenleaf Commission

Dave Karga

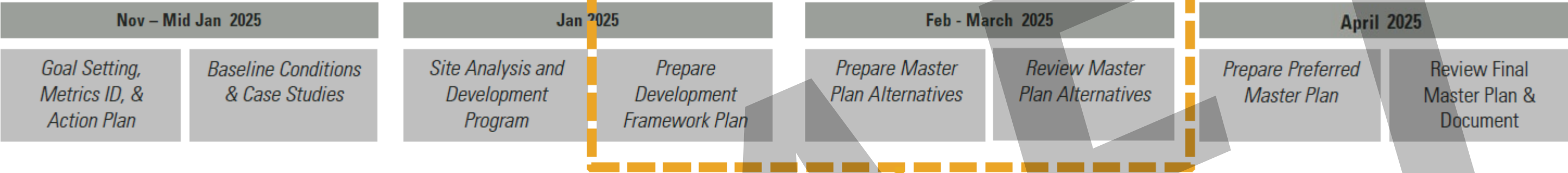
FEBRUARY 5, 2025

Capital Outlay and Infrastructure Committee Meeting

Livonia City Center Program Project Update

Master Plan Process Timeline

Long-Term Timeline



Near-Term Timeline



Key Design Strategies

DELIVER A NEW CITY CENTER THAT TRANSFORMS LIVONIA FOR RESIDENTS, BUSINESSES and GUESTS

Programming and activation that elevates and attracts

BEGIN BY MAKING A GREAT MIXED-USE EXPERIENCE FIRST

Discussion on the potential program and offering to the community

DESIGN TO UNLOCK THE SITE'S GREATEST ASSETS

Leverage this parcel to optimize services and engagement

PAVE A WAY FOR FUTURE DEVELOPMENT ALONG FIVE MILE ROAD AND FARMINGTON ROAD

Foundation of elements that build momentum and spur development

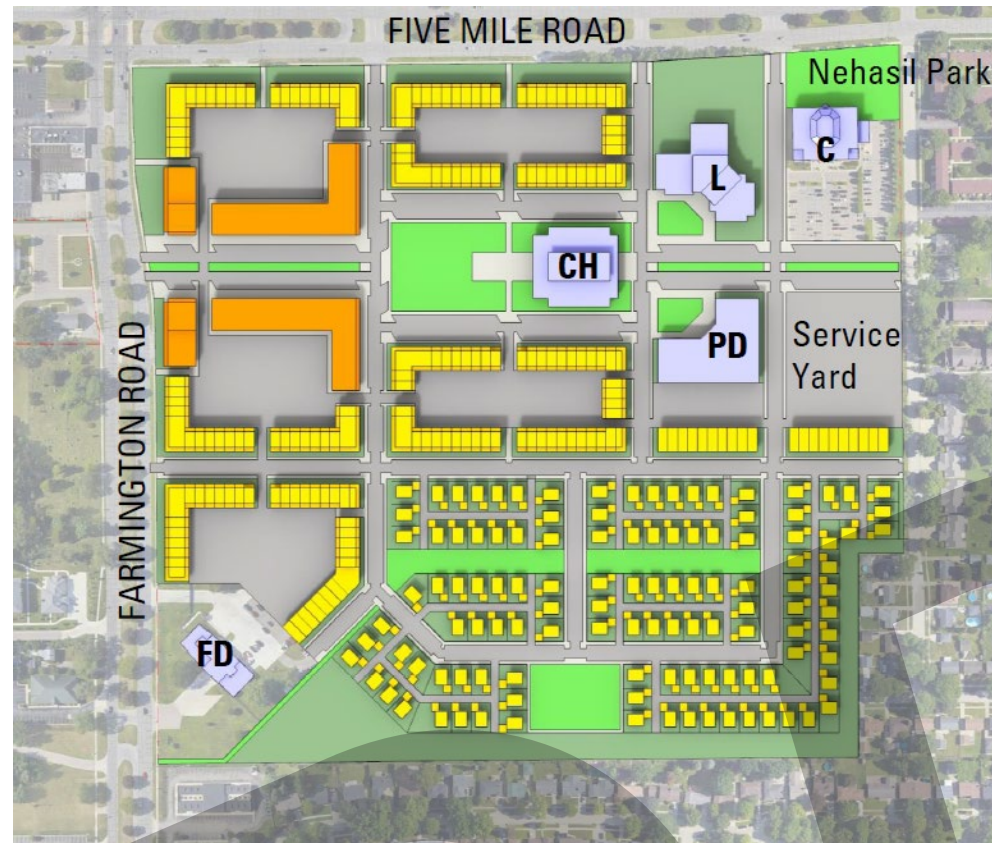
Master Plan Goals and Objectives:

The following tactical objectives from Vision 21 are evolving into application in the Master Plan:

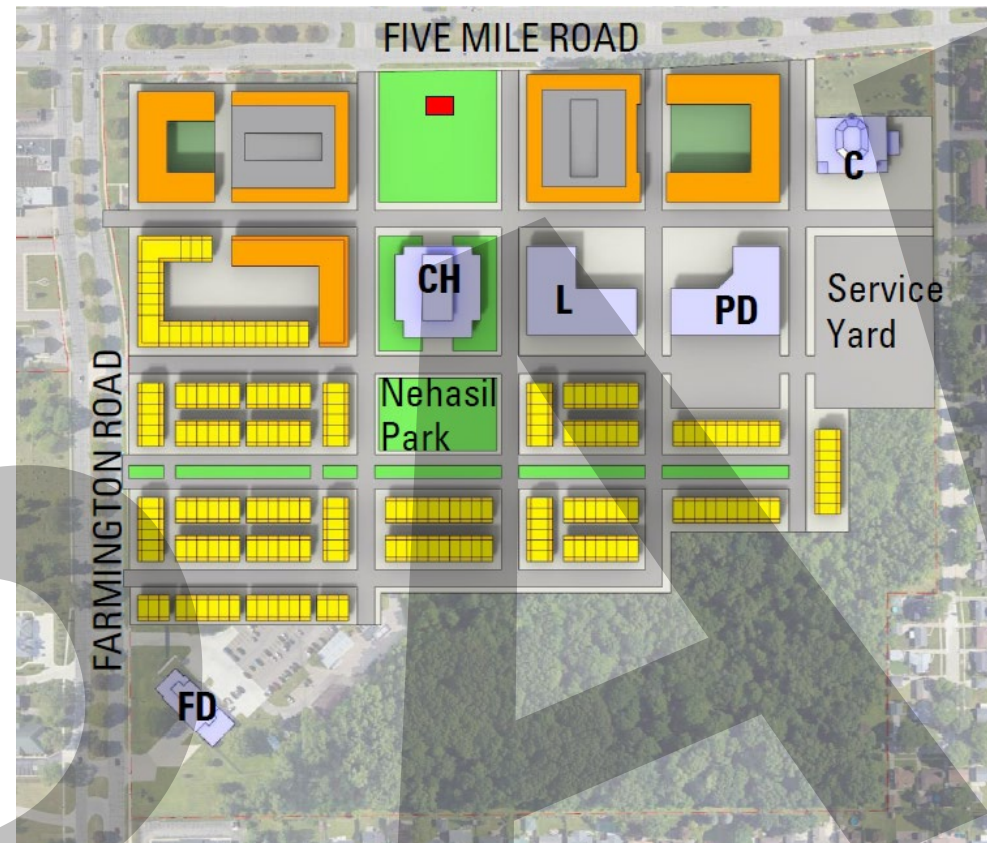
- Housing and Neighborhood
- Transportation
- Sustainability and Resiliency
- Healthy Communities
- Economic Development
- Parks, Trails, and Open Spaces
- Infrastructure
- Urban Design

DRAFT

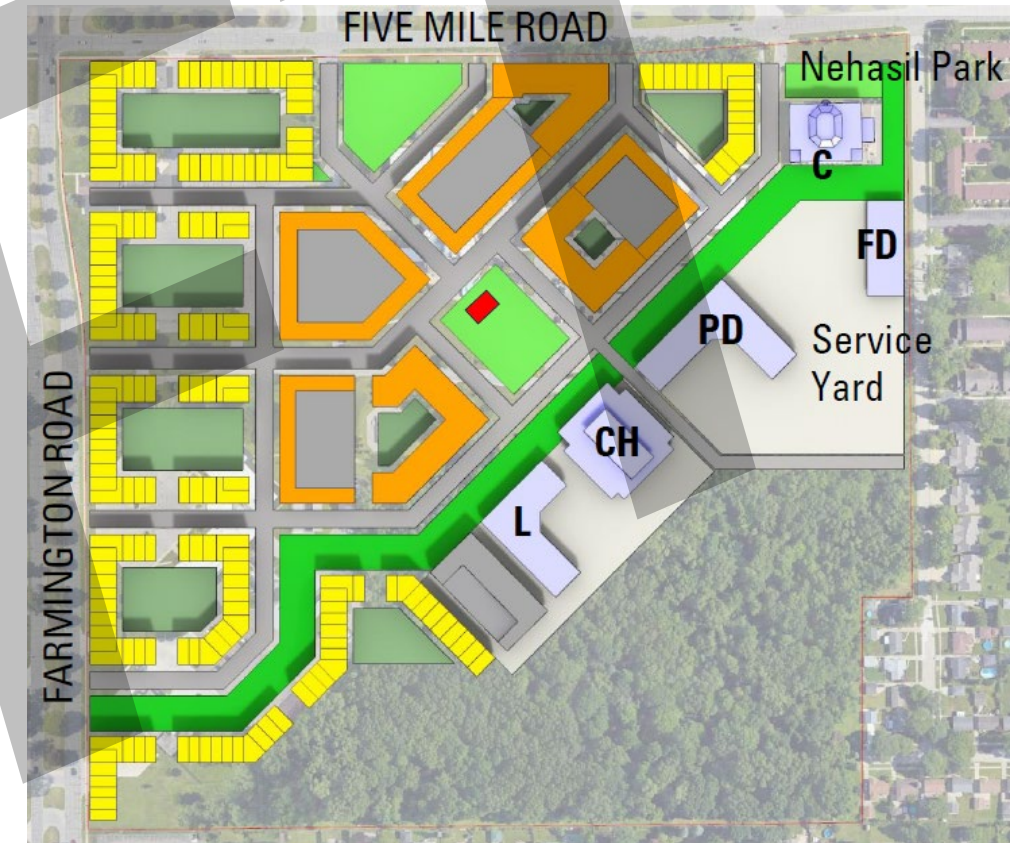
Evolution of City Center Master Plan



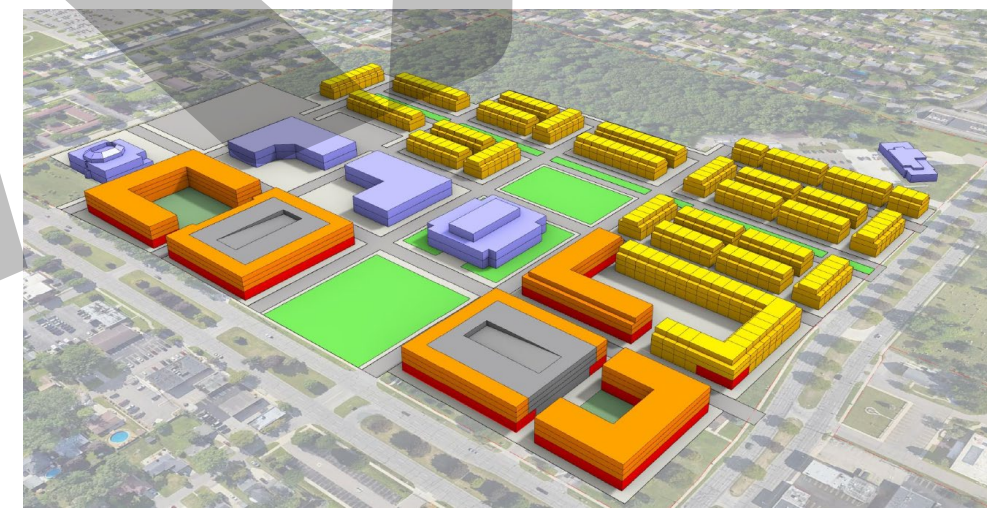
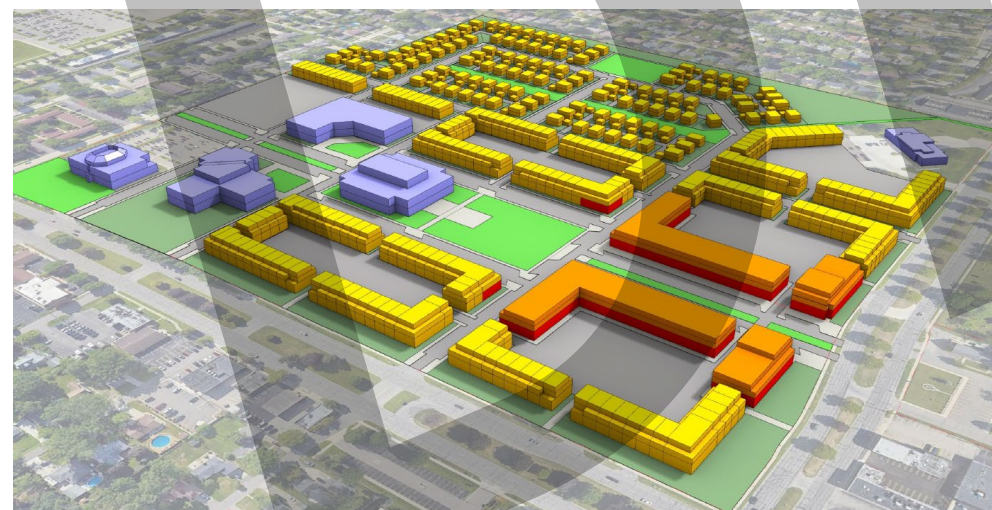
Option 1



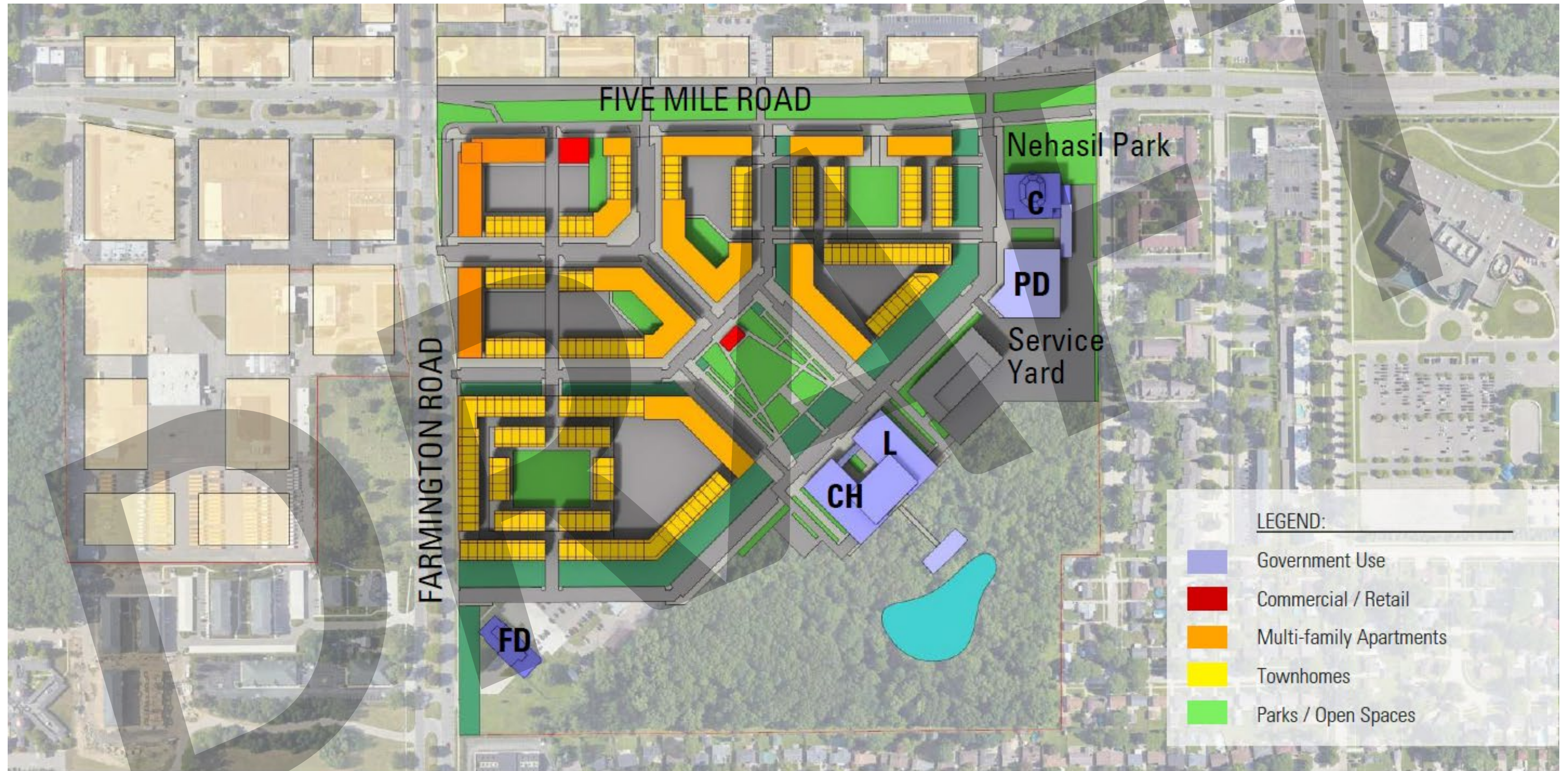
Option 2



Option 3



Stewards of the Woods Concept- Revision of Option 3



Stewards of the Woods Concept- 3D



IHED

DESIGNWORKSHOP



Some of the Benefits of a New Library

Even with a sizable refresh, the existing Library would be challenged to provide...

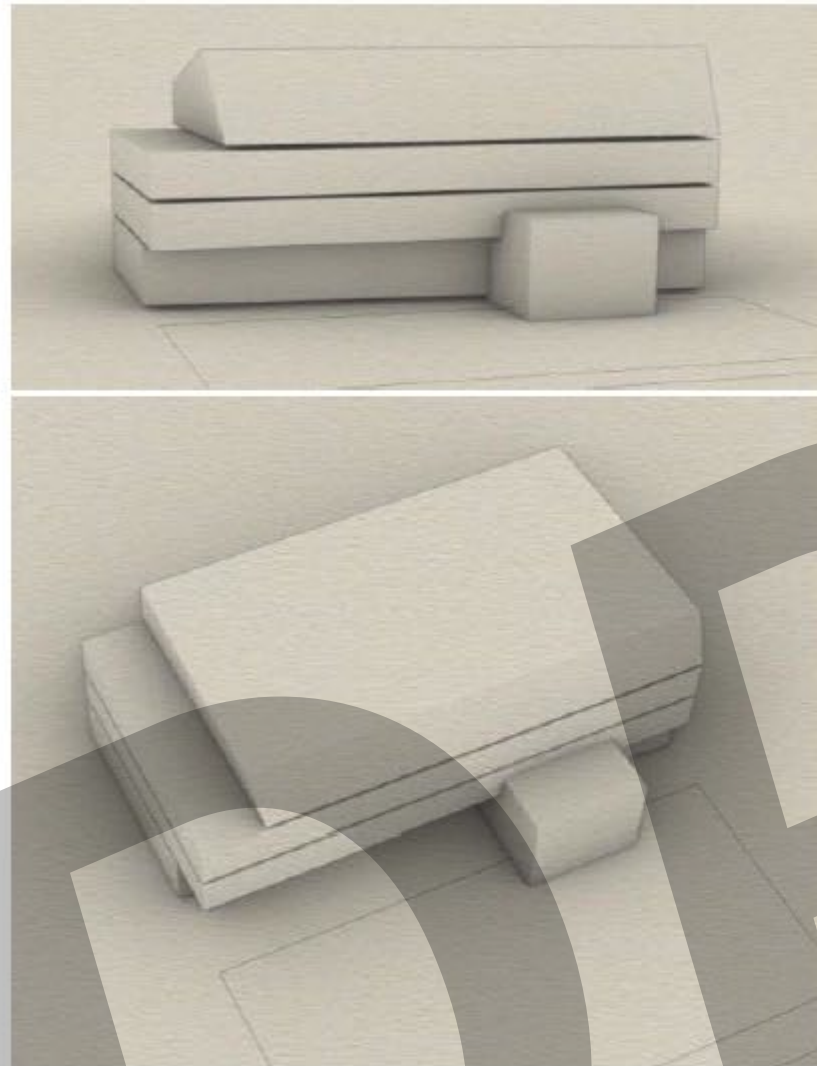
- **APPROPRIATE MEETING SPACE**
- **DRIVE-UP BOOK RETURN (DIRECT TO STAFF AREA) AND RFID IMPLEMENTATION TO FREE UP STAFFING**
- **ENGAGING OUTDOOR PROGRAM SPACE**
- **EXHIBITS, ART, PUBLIC INTERACTIVE ENGAGEMENT**
- **POWER/INFRASTRUCTURE-RELATED IMPROVEMENTS**

Some of the Benefits of a joint Library- City Hall

Potential synergies exist with...

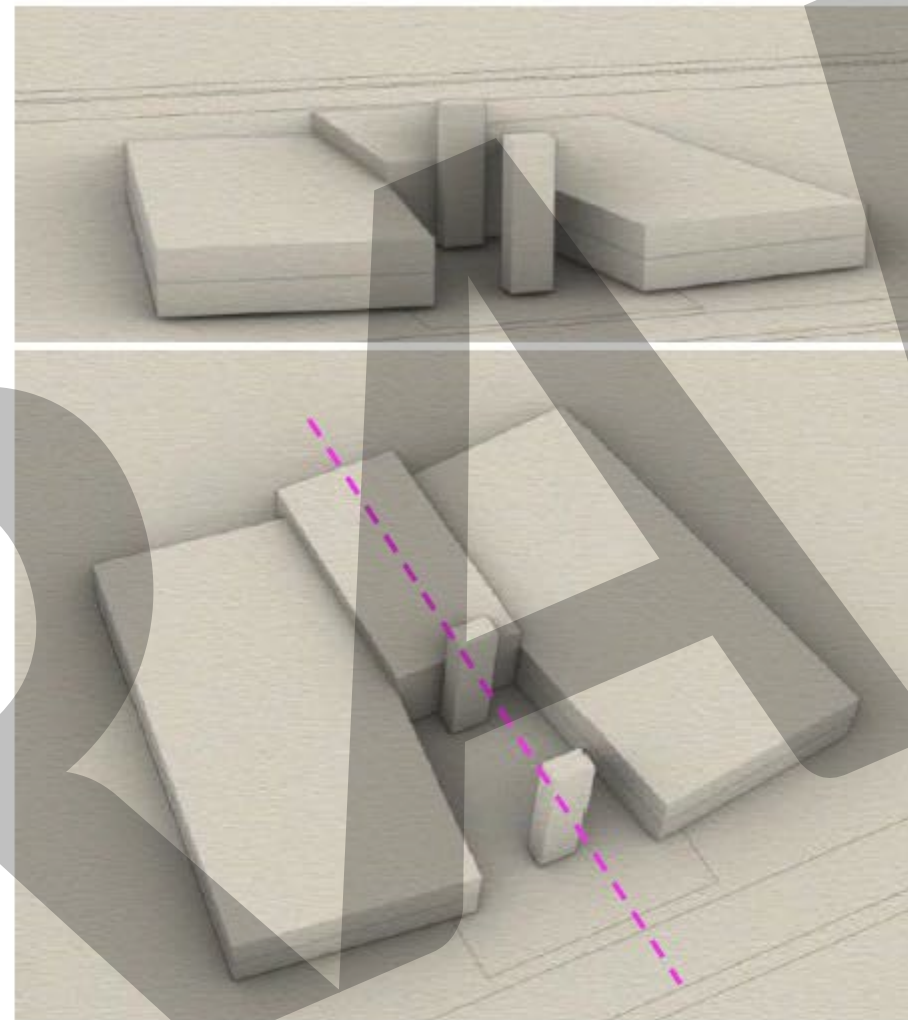
- **REDUCTION IN BUILDING ENVELOPE**
- **COMBINING NEEDS FOR INFRASTRUCTURE/VERTICAL CIRCULATION CORE / TOILET ROOMS COULD MAKE LIBRARY SPACE MORE FLEXIBLE**
- **SHARING OF PROGRAM FUNCTIONS (MEETING SPACE, COMMON ATRIUM)**
- **DIVERSITY OF HOURS OF OPERATION, ACTIVATION OF PUBLIC OUTDOOR SPACE**

Library/ City Hall Combo Options



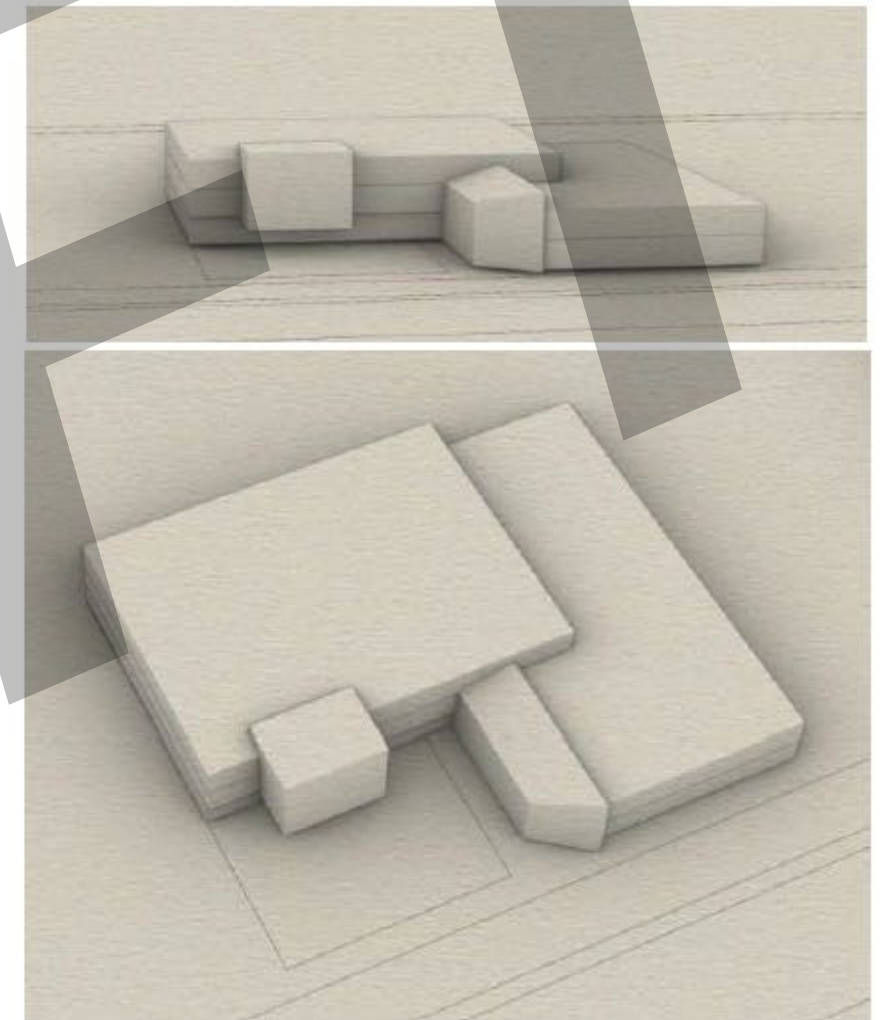
VALUE OF HEIGHT

- More presence on public space
- Compressed footprint
- Ability to elevate key space for longer views



VALUE OF VISIBLE AXIS

- Aligns with axis of plaza
- See through option to woods beyond
- Focal point opportunity



VALUE OF VARIED VOLUMES

- 3story-2story combo could have usable roof space
- Visible differentiation of functions

Library/ City Hall Combo Visuals



Cedar Rapids, IA



Oak Creek, WI

Plaza Ideations



Goal 1 – Wide Appeal

- Park amenities should cater to a variety of users; from families to young professionals, and active adults

Goal 2 – Community First

- Park amenities should focus on the service population of the City Center first

Goal 3 – Right-Sized

- Park amenities should be sized appropriate to the needs of the service population.

Goal 4 – Acknowledge Adjacencies

- Park amenities should complement the site conditions and adjacent land uses.

Goal 5 – Seasonally Appropriate

- Park amenities should be useable, year-round.

Goal 6 – Durable and Cost-Effective

- Park amenities should be cost effective, durable, and maintainable.



“Be the host of the party not the life of the party.”

PURPOSE

To model the current usage of an
OUTDOOR civic gathering space



To model the current usage of an INDOOR
gathering space.



RESOURCES

Include city activities sponsored by the library, parks and recreation, police, fire, DPW and housing.

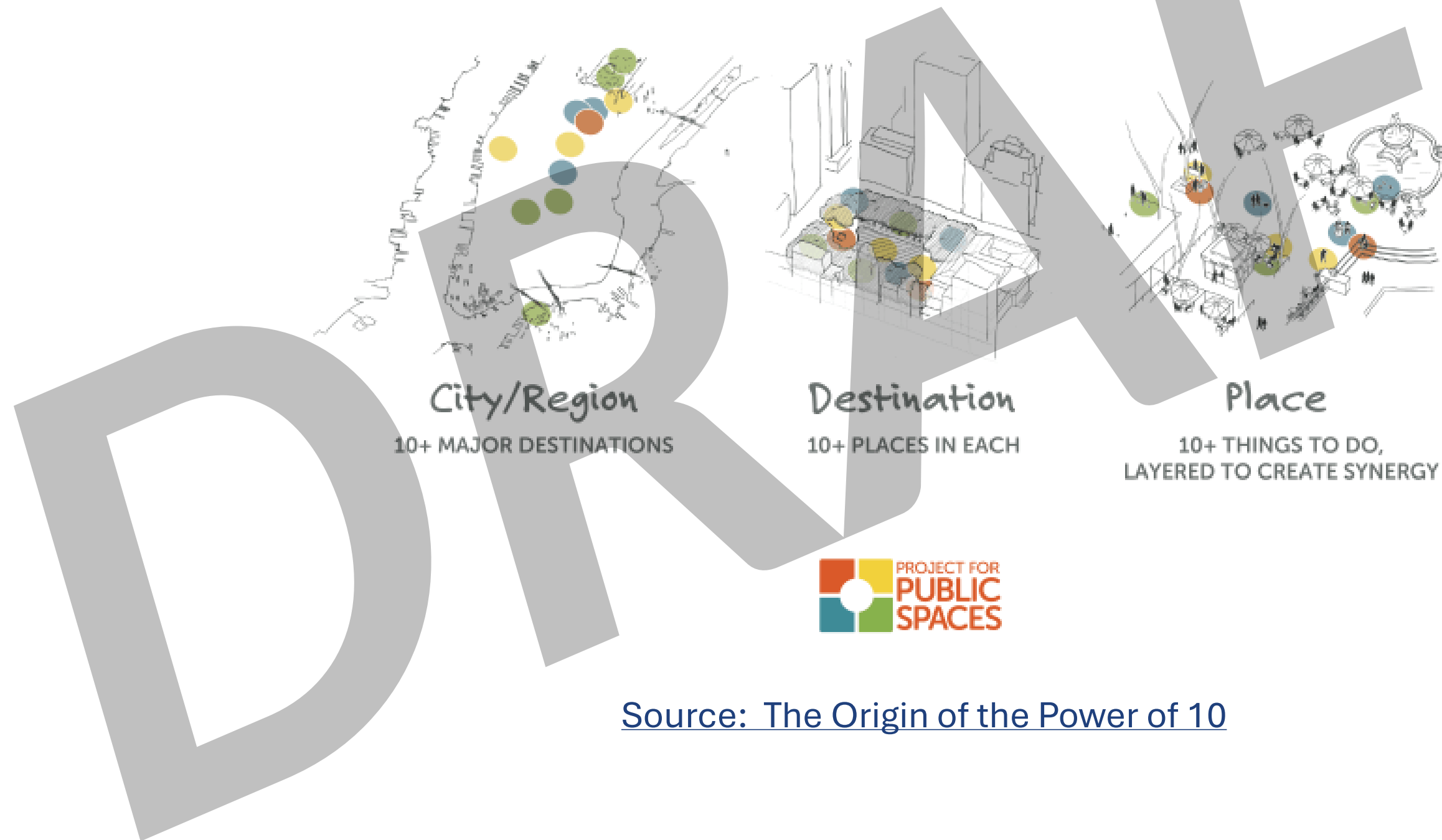


Include non-profit activities sponsored by community-based organizations.



POWER OF 10+

HOW CITIES TRANSFORM THROUGH PLACEMAKING



[Source: The Origin of the Power of 10](#)

WHAT IS THE POWER OF 10?

It's an urban planning principle that says places thrive when there are at least 10 things to do, arranged in such a way as to create social linkages. Scaling this up, a specific destination or neighborhood needs at least 10 places, that offer people a reason to visit and spend time there. One more level up, a city needs at least 10 major destinations, creating a powerful network of a thousand things to do.



City Center Program Update

Due Diligence completed to date:

Site Wide

- Title Work - *American Title*
- Property Survey - *Spalding DeDecker*
- Traffic Study - *Spalding DeDecker*
- Wetland Report - *Brooks Williamson & Associates*
- Phase I Environmental Report - *NTH Consultants*
- PMR Parking Study - *Complete*
- Cell Tower Lease Analysis - *Ongoing*
- HED Parking Validation - *Ongoing*
- Additional Survey Work - *Ongoing*
- Additional Title Work - *Ongoing*

City Hall

- HED Validation of PMR Program - *Complete*

Police Station

- PMR Program Validation - *Complete*

Library

- PMR Space Program draft - *Complete*
- Space Program Adjustments - *Ongoing*

Economics

- PMR discussions with Stokas Bieri, Jordan Jonna, MML, MEDC, MEDA, etc.
- Developed Sources & Uses- possible incentives, grants, and other sources of capital to facilitate plan
- Discussions with Miller Canfield on bond mechanics and ballot proposal language

Major Vendors:

HED

- Completed City Hall Program Validation
- City Hall Schematic Design is underway
- Master *Planning* effort with collaboration from Design Workshop

OHM

- Advising on Civil Engineering for Master Plan in collaboration with HED
- Developing 5 Mile and Farmington, as well as interior road concepts

Hobbs + Black

- Program Validation meetings for the police station have been scheduled

Frank Rewold & Sons

- Preparing to begin pre-construction services on City Hall once schematic design phase is complete

City Center Program Update

Upcoming Dates:

Capital Outlay and Infrastructure Committee Meetings:

Wednesday, February 5 - Today!

Wednesday, March 12 - Preferred Master Plan validation

Wednesday, April 2 - Final Master Plan refinement before City Council approval

City Council Meetings:

Monday, February 10- Technology Consultant approval

Monday, April 14- Master Plan presentation 1

Monday, April 28- Master Plan approval

From: [Varga, Dave](#)
To: [CityCouncil](#)
Cc: [Mayor Staff](#); [Davis, Ted](#); [Lichtenberg, Debra](#); [Taormina, Mark](#); [Kasprowicz, Sara](#); [Fisher, Carter](#)
Subject: Senior Wellness Center budget
Date: Friday, February 7, 2025 11:44:39 AM
Attachments: [2025 01 08 LivoniaSeniorWellnessCtr.pdf](#)

Good morning, Council Members:

Several questions were raised at the Capital Outlay and Infrastructure meeting Wednesday regarding the Senior Wellness Center and the quoted cost of the project included in the Crain's story. As indicated, did not provide them the \$28 million figure.

Attached is a document that outlines the various costs and the Council Resolutions approving those costs. As you can see, beyond the GMP Construction cost of \$25.5 million, there are also architectural costs of \$1 million, land purchase at \$415,660, and the owner's rep fee of \$100,000, putting the cost at \$27 million.

Additionally, the PowerPoint showing the renderings from that presentation is included here.

I have requested a copy of the PowerPoint presented by PMR, which is still a very preliminary, working document. I will share it when it's available.

All the best,

Dave Varga
Chief of Staff
City of Livonia | Mayor's Office
(734) 466-2203
dvarga@livonia.gov

Contracts	CR #	Vendor	Est Cost
Architectural Design	342-22	HRC	696,678.00
Architectural Construction Admin	342-22	HRC	349,322.00
(CR# 342-22 = Not to exceed \$1,046,000)			
Land Purchase from LPS	115-24	LPS	415,660.00
Construction Manager Services	070-24	PCI Dailey	1,065,600.00
GMP - COST OF WORK:			
Cost of Work (except as itemized below)	233-24	PCI Dailey	18,689,585.40
Furniture Allowance	233-24	PCI Dailey	1,250,000.00
Food Service Equipment	233-24	PCI Dailey	408,900.00
Athletic Equipment Allowance	233-24	PCI Dailey	200,000.00
Other Equipment and Furniture - *Remaining Non-Construction balance for MIDHHS	233-24	PCI Dailey	210,518.00
(Total Cost of Work, per GMP = \$20,759,003.40)			
OTHER FEES & CONTINGENCIES:			
Fees & Allowances	233-24	PCI Dailey	559,500.00
Fees over \$18M	233-24	PCI Dailey	210,695.08
Contingencies	233-24	PCI Dailey	2,910,811.85
Owner's Representative	372-24	M. Slater	100,000.00
			-
Total Projected			27,067,270.33
Total Project (GMP + City of Livonia Costs), per CR 233-24 doc.			26,951,610.33
Difference			115,660.00
Land Cost in excess of GMP Summary			(15,660.00)
Owner's Rep Services (not in GMP Summary)			(100,000.00)
			-

LIVONIA SENIOR WELLNESS CENTER

INTERIOR DESIGN REVIEW | EXTERIOR FAÇADE CANOPY

01.08.2025

iDs

INTERIOR SPACES

SENIOR CENTER

FIRST FLOOR PLAN



ENTRANCE LOBBY



ENTRANCE LOBBY



ENTRANCE CORRIDOR





ENTRANCE CORRIDOR

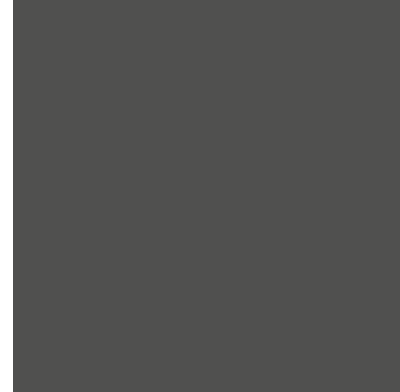
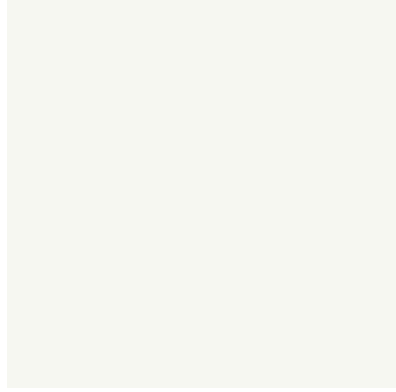
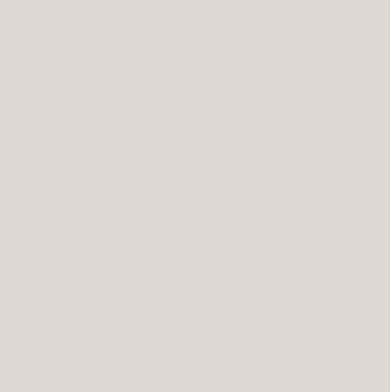






INTERIOR FINISHES

SENIOR CENTER



FIELD PAINT
PT-01

ACCENT PAINT
PT-02

PAINT
(DOOR / FRAMES)
PT-03

PAINT
(GYP CEILINGS)
PT-04

ARCHITECTURAL FINISH – DI NOC
WC-01

RUBBER BASE
RB-01



SOLID SURFACE COUNTERTOP
(RECEPTION DESK /
CAFÉ COUNTER / RESTROOM
COUNTER)
SSM-01

PLASTIC LAMINATE
MILLWORK
PLAM-01



WALK OFF CARPET TILE
TANDUS / ASSERTIVE STRIA / FORGE
CPT-01



CARPET PLANK
CPT-02



KINETEX FLOORING (2ND FLOOR)
CPT-03



FIREPLACE FAÇADE
LS-01



RESILIENT FLOORING MCT
RF-01



RESILIENT FLOORING MCT
RF-02



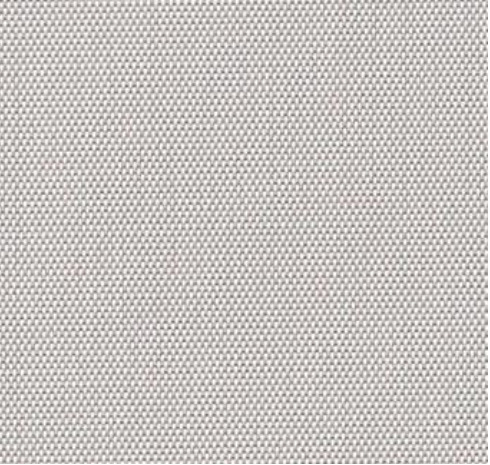
PLASTIC LAMINATE
TOILET PARTITIONS / INTERIOR ELEVATOR PANELS



ACCENT WALL TILE
CT-04 (CHARCOAL GROUT)



INTERIOR WOOD DOORS
ST-02



WINDOW SHADE
SC-01



FELT BAFFLES
BF-01



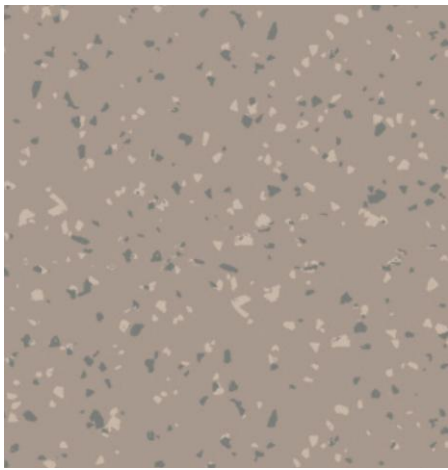
ACOUSTICAL CEILING TILES
ACT-01



RESTROOM FLOOR TILE
CHARCOAL GROUT
12" X 24"
CT-04
6" H WALL BASE
CTB-01



RESTROOM WALL TILE (WET WALLS)
CHARCOAL GROUT
3' X 9' LARGE FORMAT
CT-02



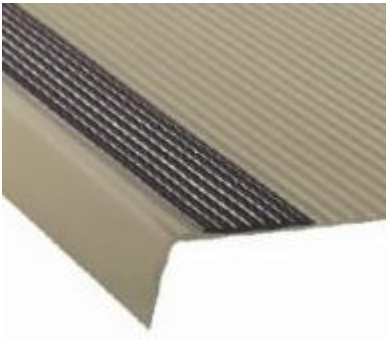
RUBBER STAIR TREADS / RISERS



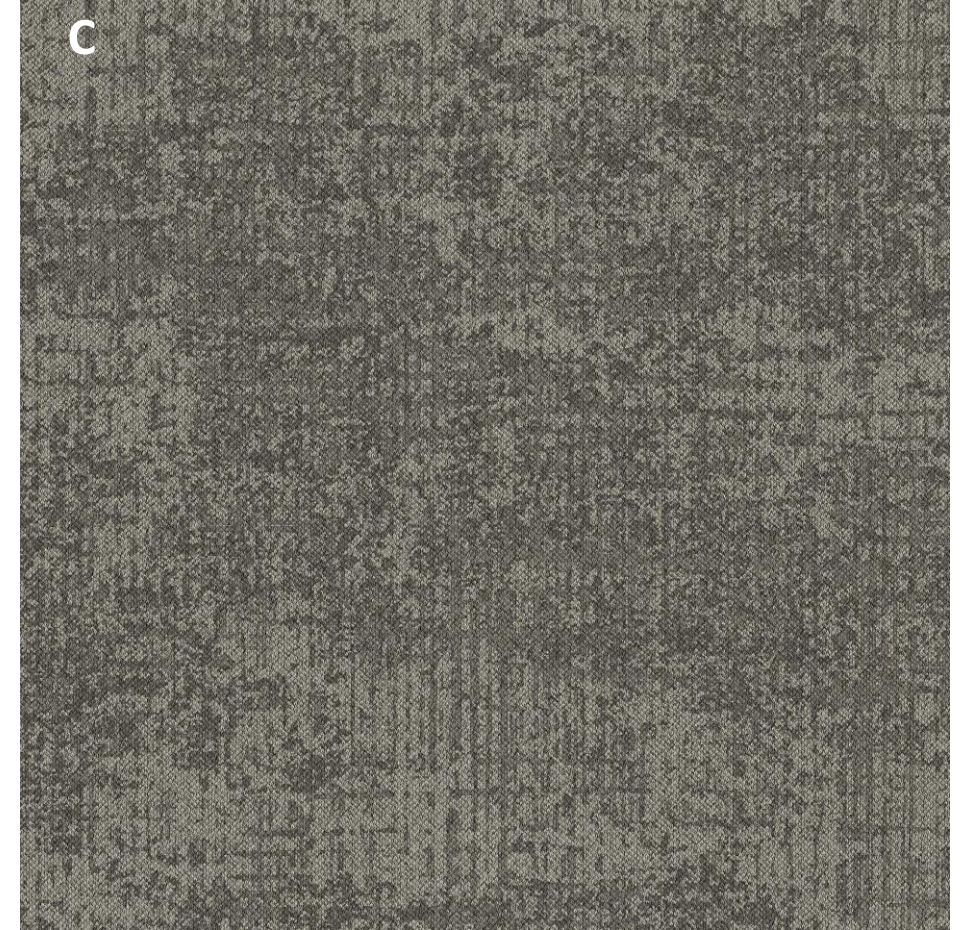
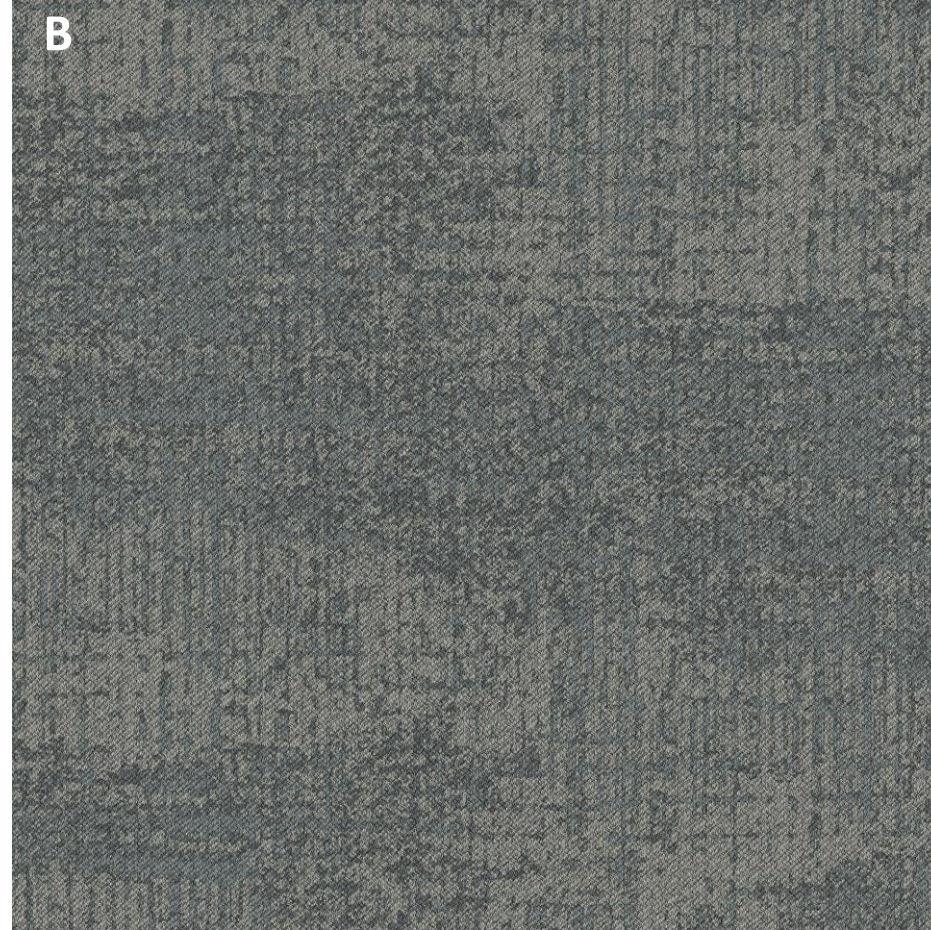
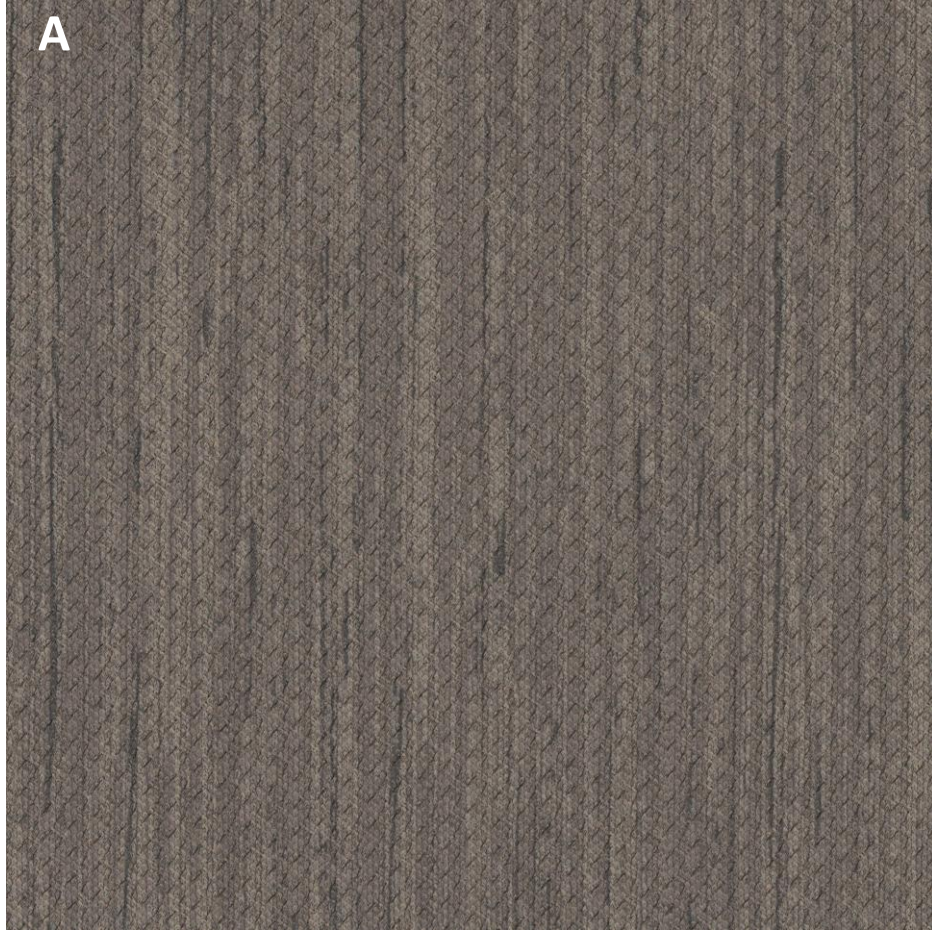
RAISED ROUND

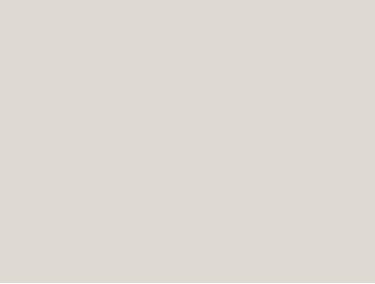
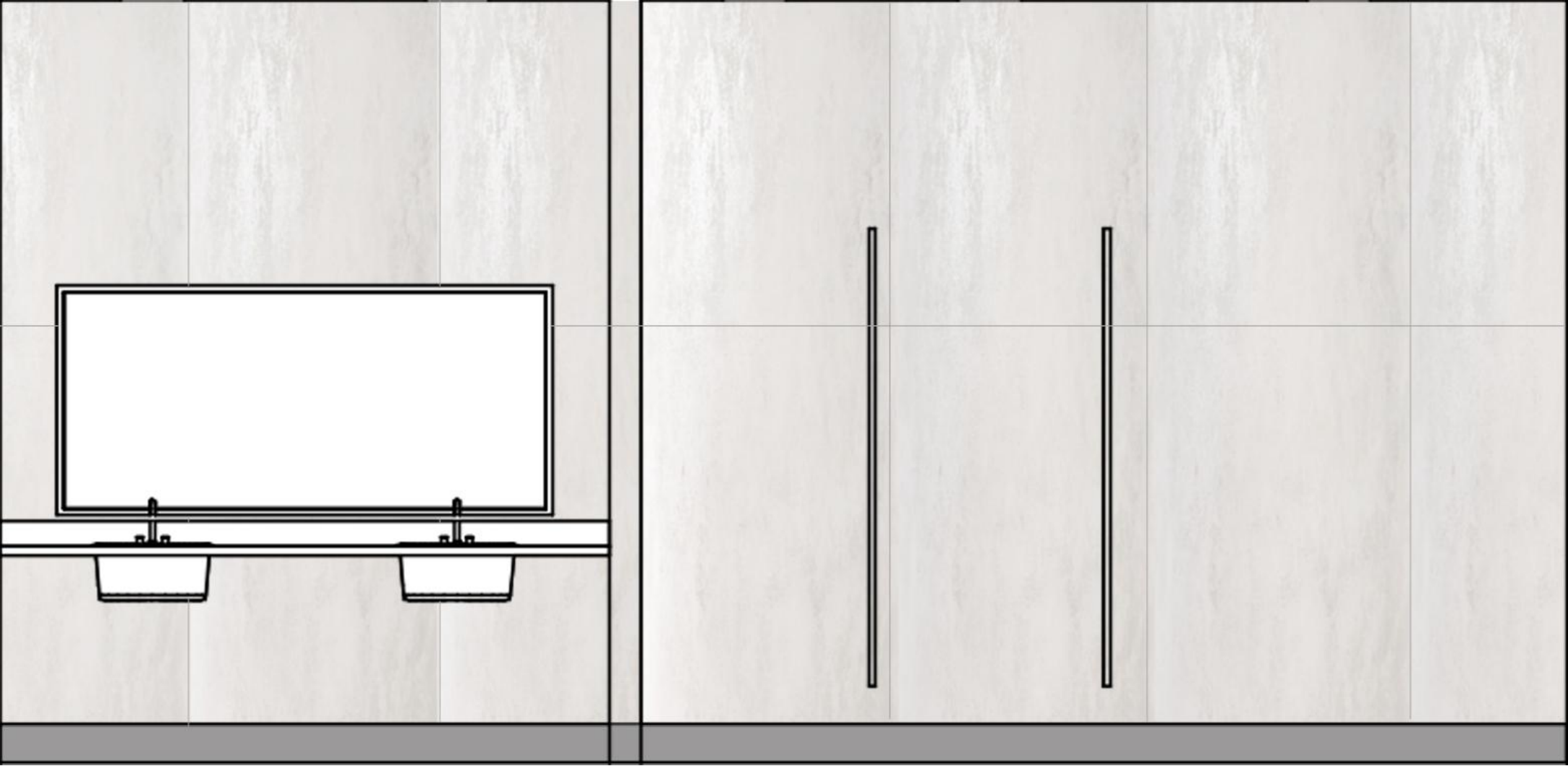


CONTRASTING RUBBER INSERT

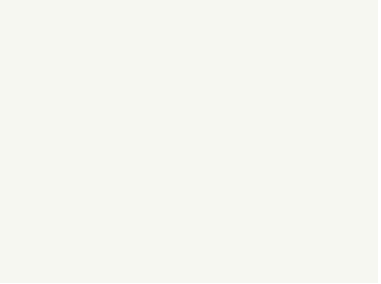


WINDOW FILM @ CONFERENCE
ROOM DOOR (SEMI-PRIVATE)
(IMAGE IS REFERENCE ONLY)
PROPOSED IMAGE – LIVONIA MAP
WF-01





FIELD PAINT PT-01



GYP CEILING PAINT PT-04



LARGE FORMAT WALL TILE @ WET WALLS
3' x 9'
LAMINAM
DARK GROUT
CT-02



SOLID SURFACE COUNTERTOP
SSM-01



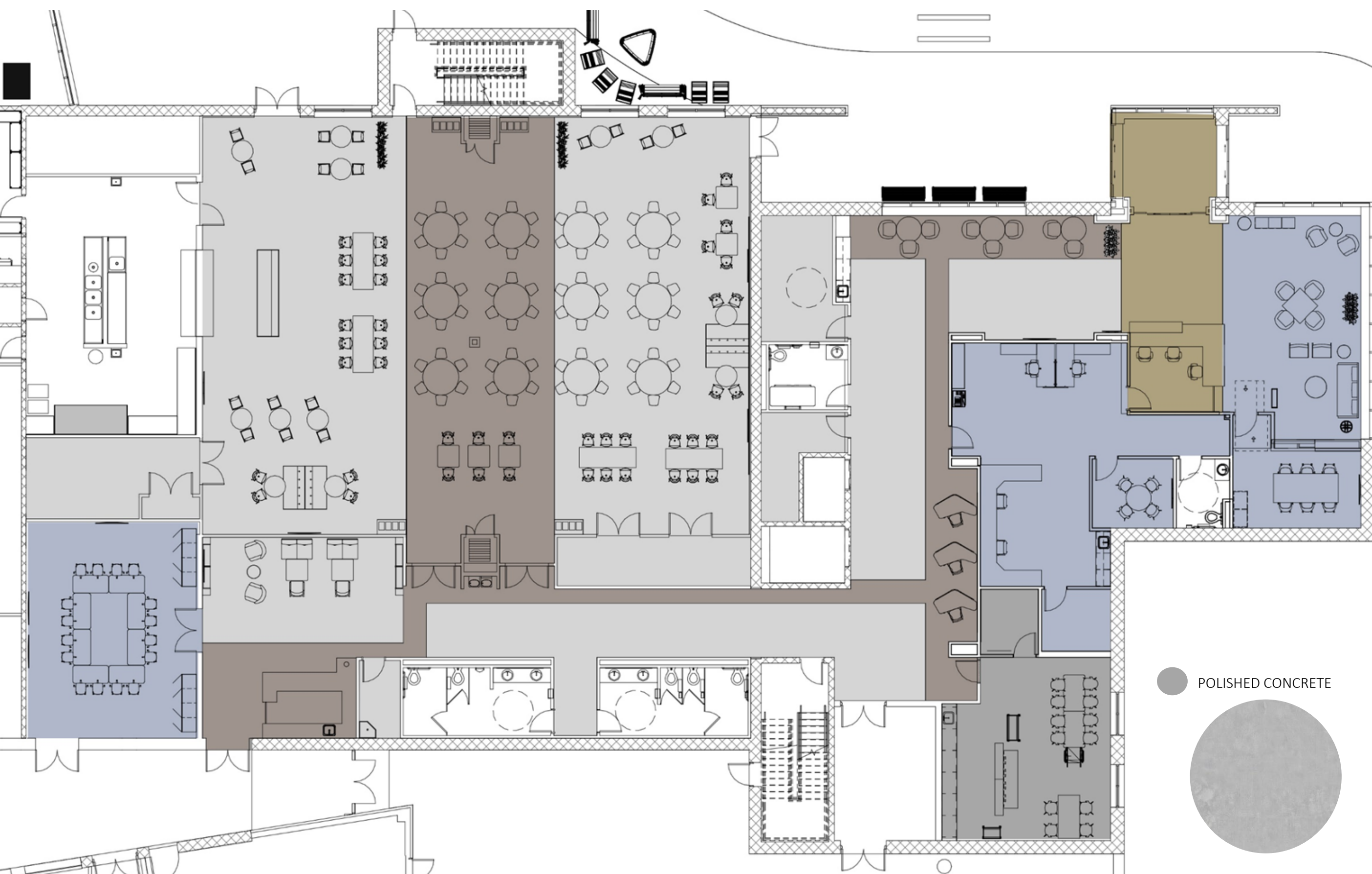
PLASTIC LAMINATE TOILET PARTITIONS
PLAM-01



FLOOR TILE / WALL BASE
12" X 24" / 6" H BASE
COLOR" ASH UNPOLISHED WITH CROSS SHEEN
DARK GROUT
INSTALL STACKED
CT-04 / CTB-01

MANUFACTURER: SNAPCAB
TIER 1 – CLASSIC 1 MODEL
PLASTIC LAMINATE WALL PANELS - LIMBER MAPLE
PANEL LAYOUT AS SHOWN
FRAME CEILING
ROUND HANDRAIL
FLOORING – MCT
ELEVATOR DOORS - PAINTED

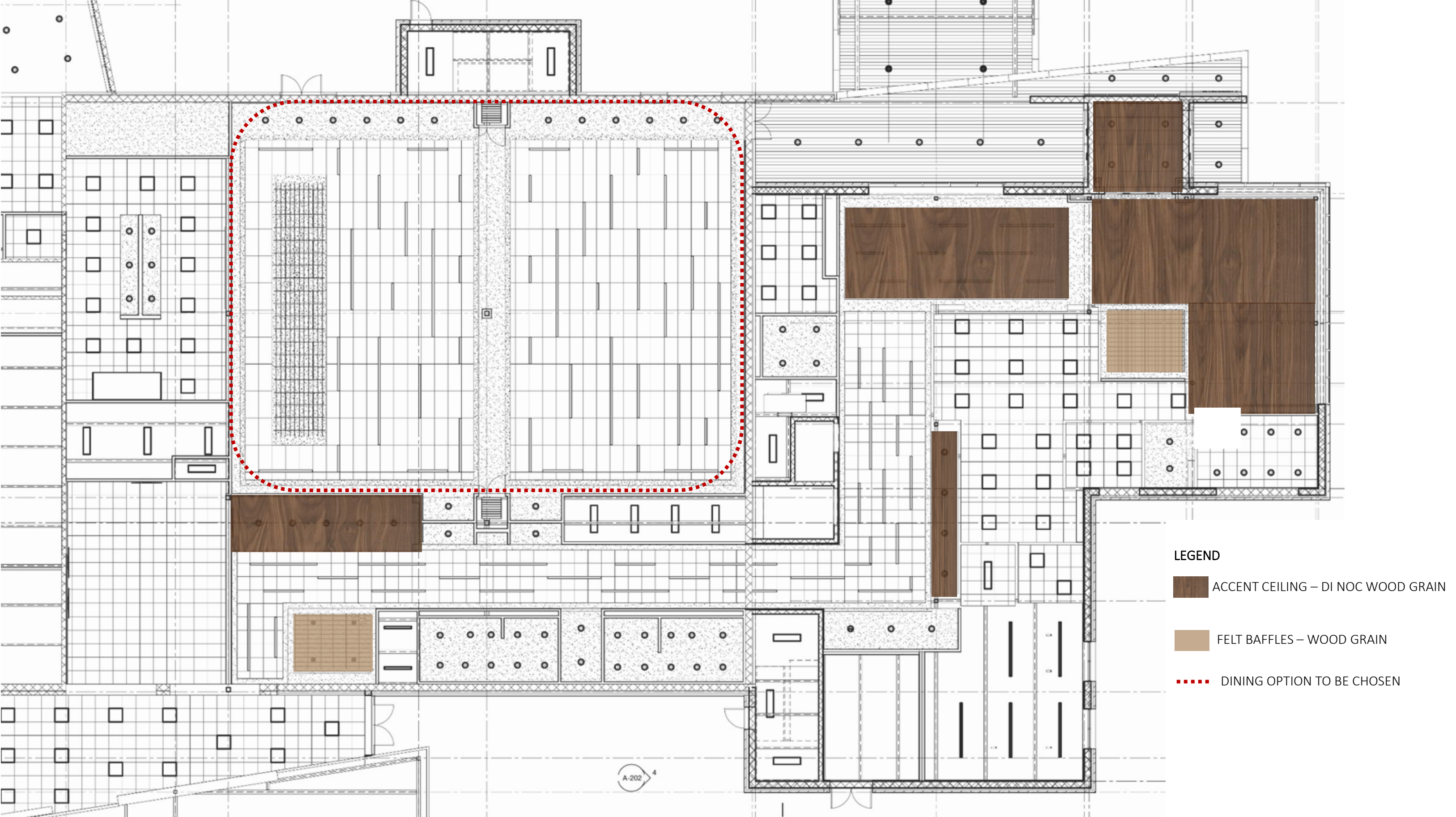




- CARPET TILE
- WALK OFF CARPET TILE
- MCT
- MCT
- POLISHED CONCRETE
- MCT

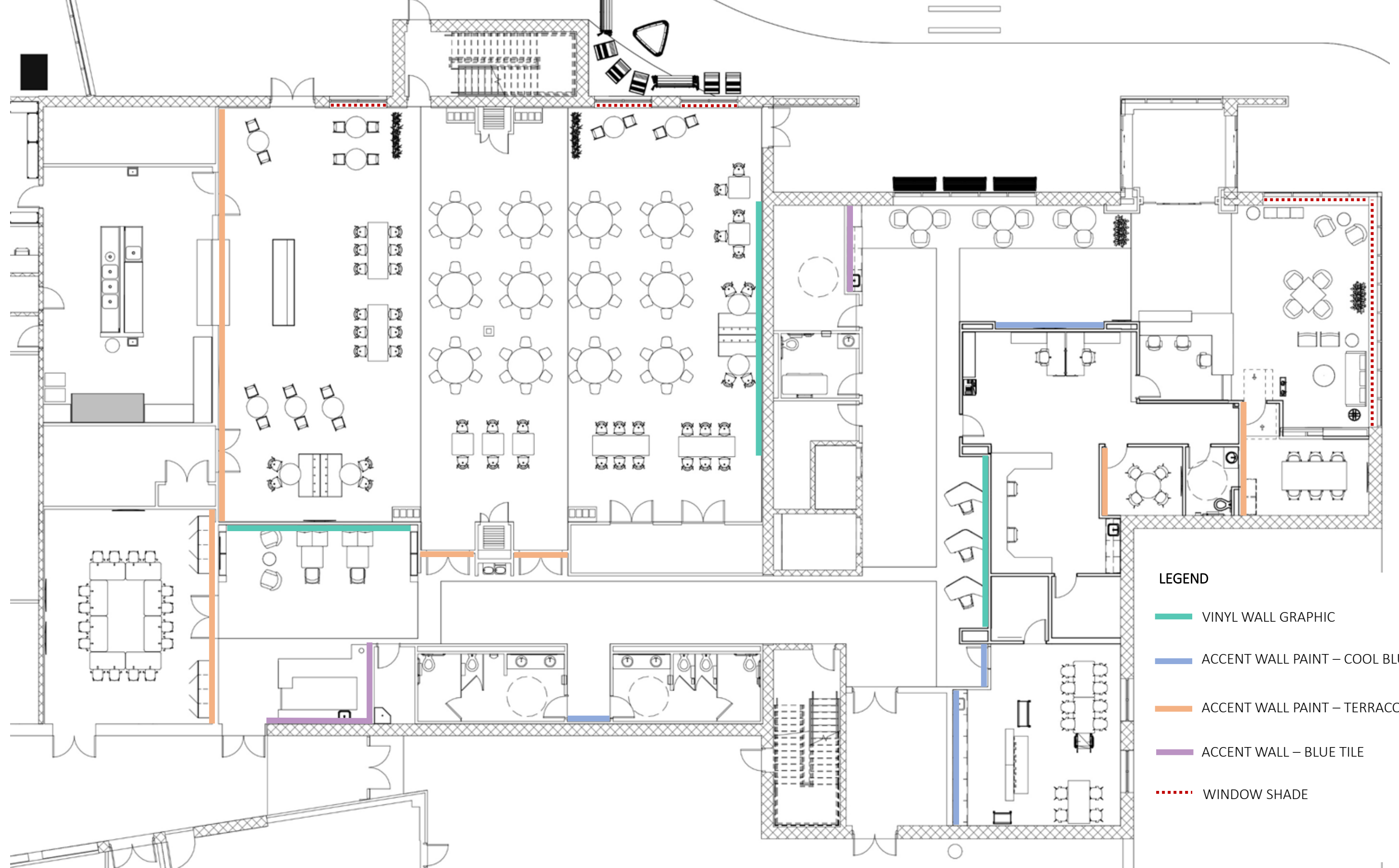
FIRST FLOOR PLAN

MATERIALS | FINISH FLOOR PLAN - SENIOR CENTER



FIRST FLOOR PLAN

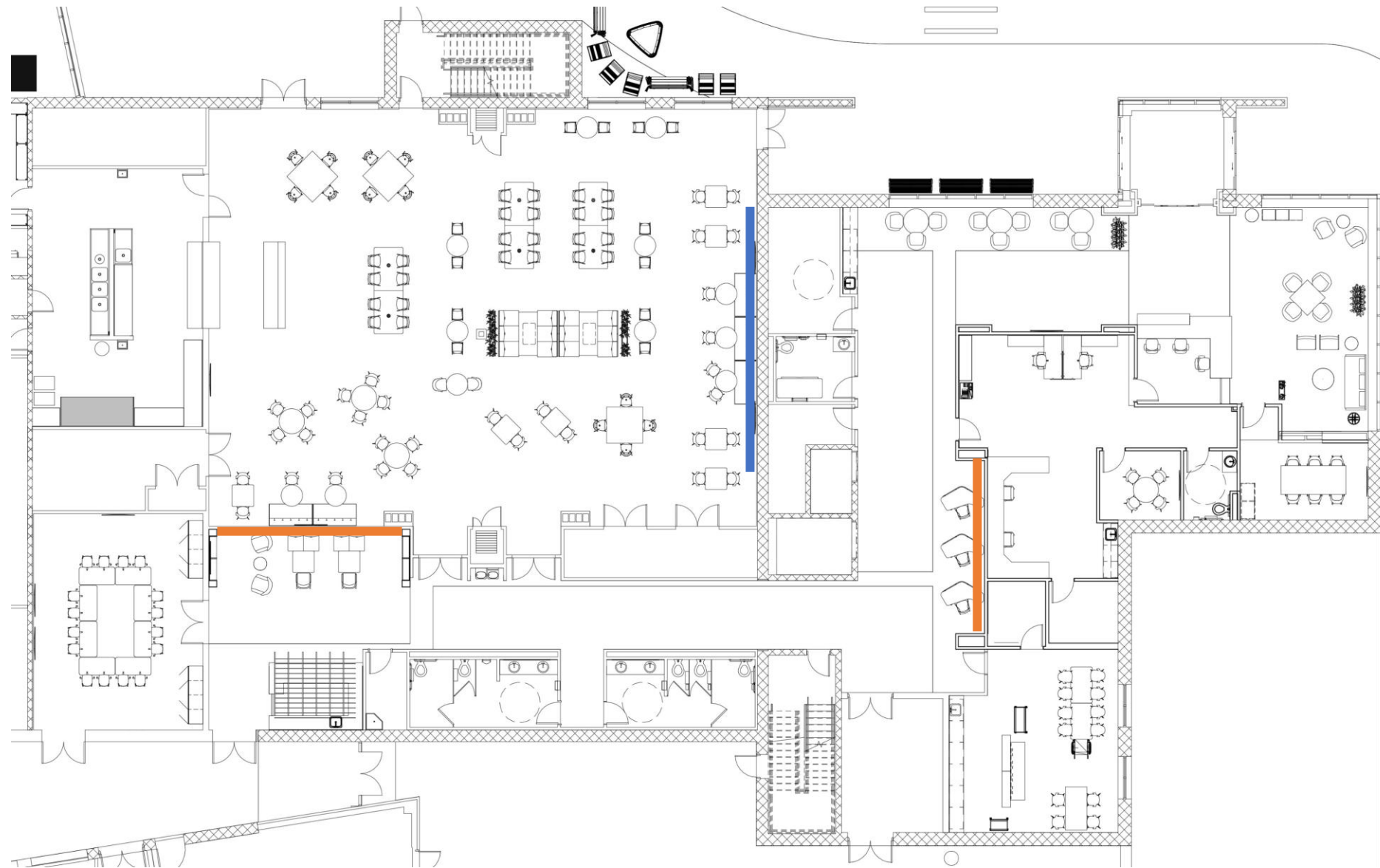
MATERIALS | FINISH CEILING PLAN - SENIOR CENTER



FIRST FLOOR PLAN

MATERIALS | FINISH PLAN - SENIOR CENTER



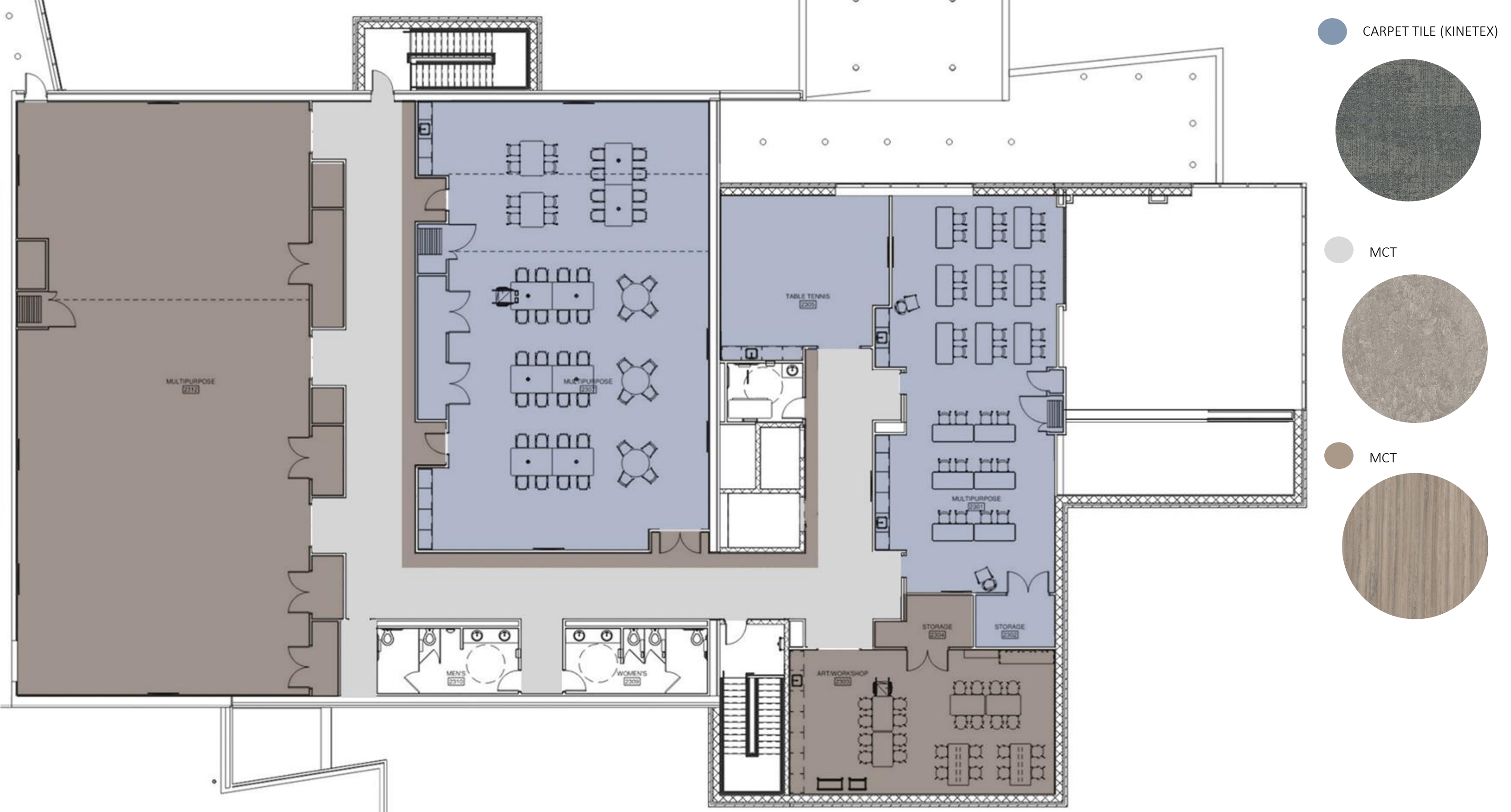


WC-02

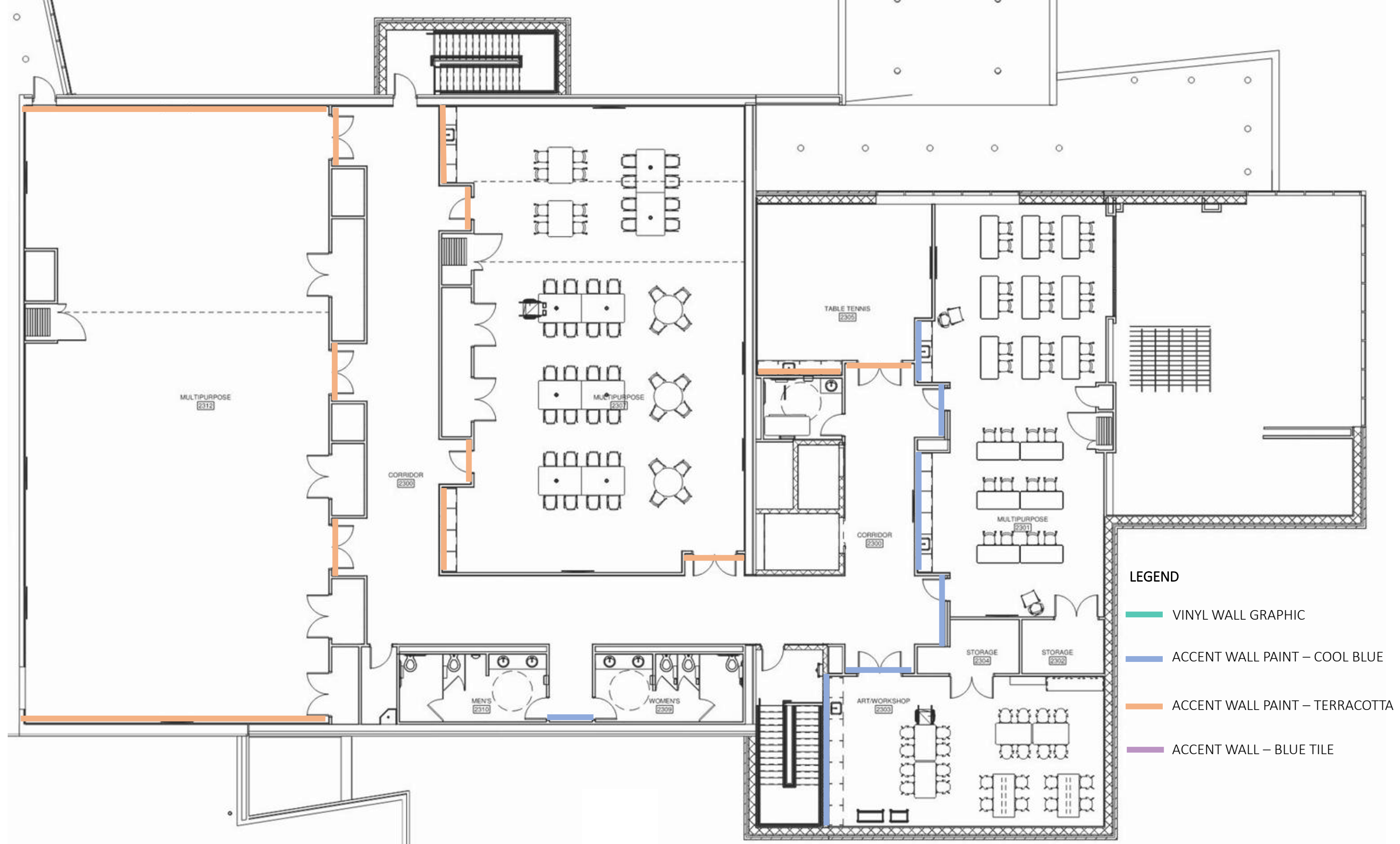


WC-03

VINYL WALL GRAPHIC FOR REFERENCE (CUSTOM)



SECOND FLOOR PLAN



SECOND FLOOR PLAN

DINING

SENIOR CENTER



DINING ROOM – OPTIONS 1 & 2



DINING ROOM – OPTION 3



DINING ROOM – OPTIONS 1 & 2



DINING ROOM – OPTION 3



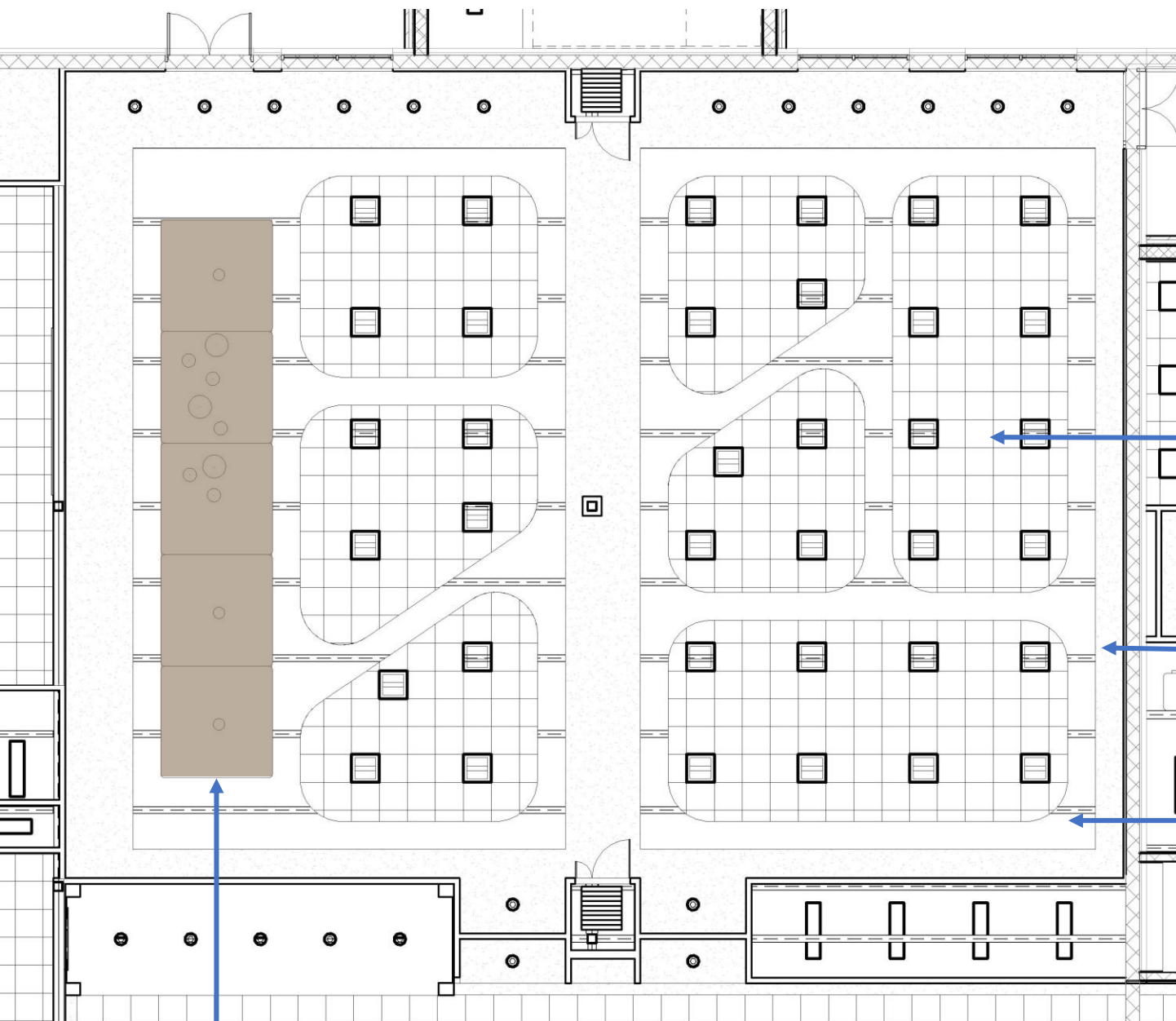
DINING ROOM – OPTION 1



DINING ROOM – OPTION 2



DINING ROOM – OPTION 3



SUSPENDED 2' X 2' ACT

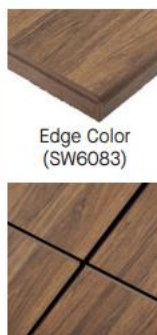
PAINTED GYPSUM SOFFIT

EXPOSED STRUCTURE (BLACK PAINT)

ARMSTRONG LYRA PLANT BASED
WOOD LOOK CEILING PANELS

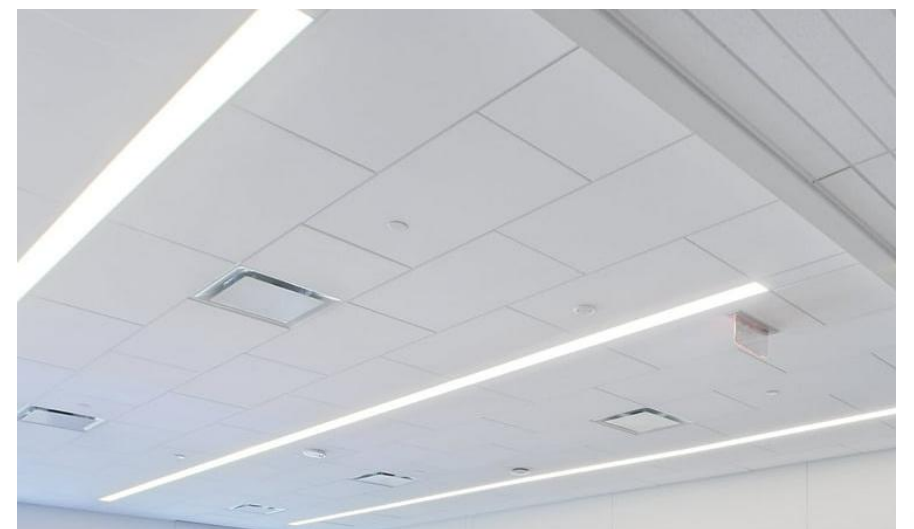
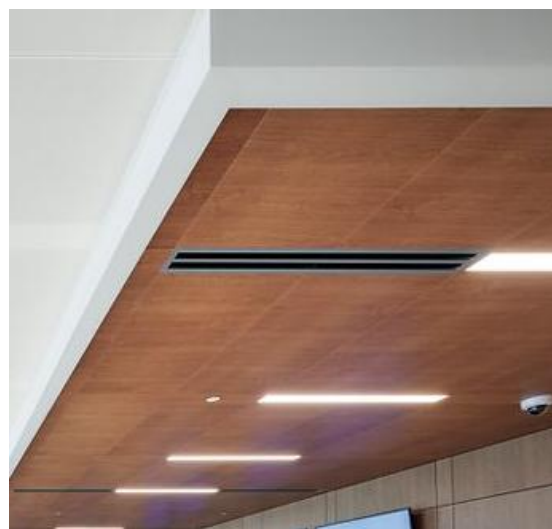


Brown Sugar Walnut (WBS)

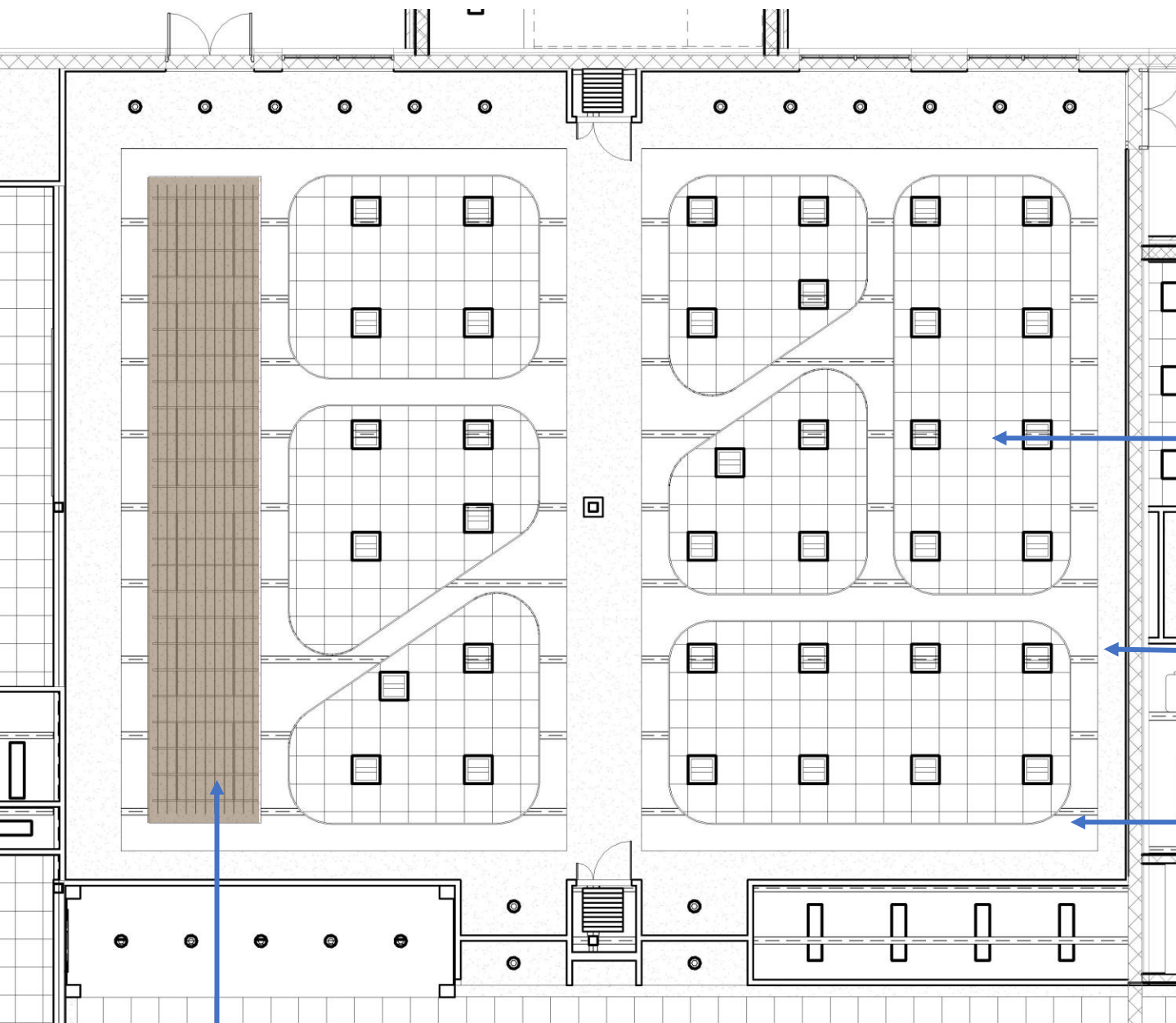


Edge Color
(SW6083)

Suprafine XL
Suspension System
in Black (BL)



MATERIALS | FINISH CEILING PLAN – DINING ROOM OPTION 1

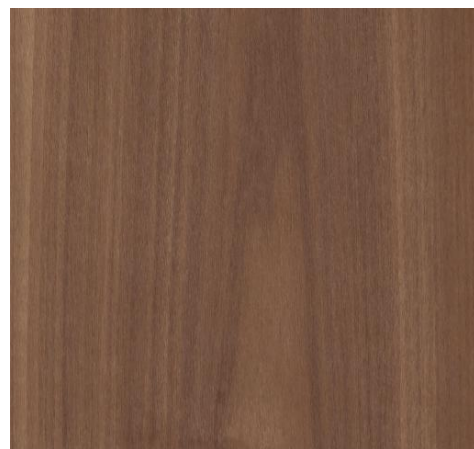
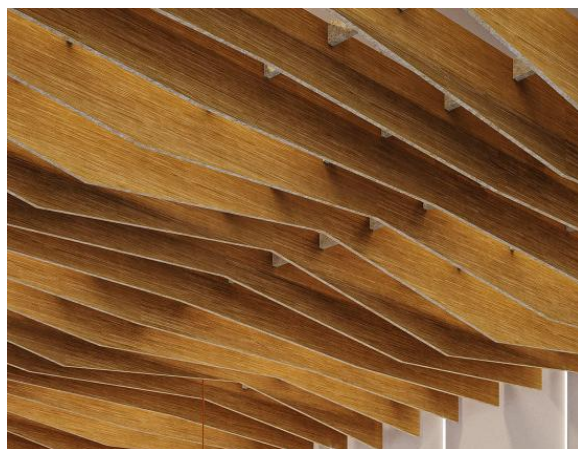


SUSPENDED 2' X 2' ACT

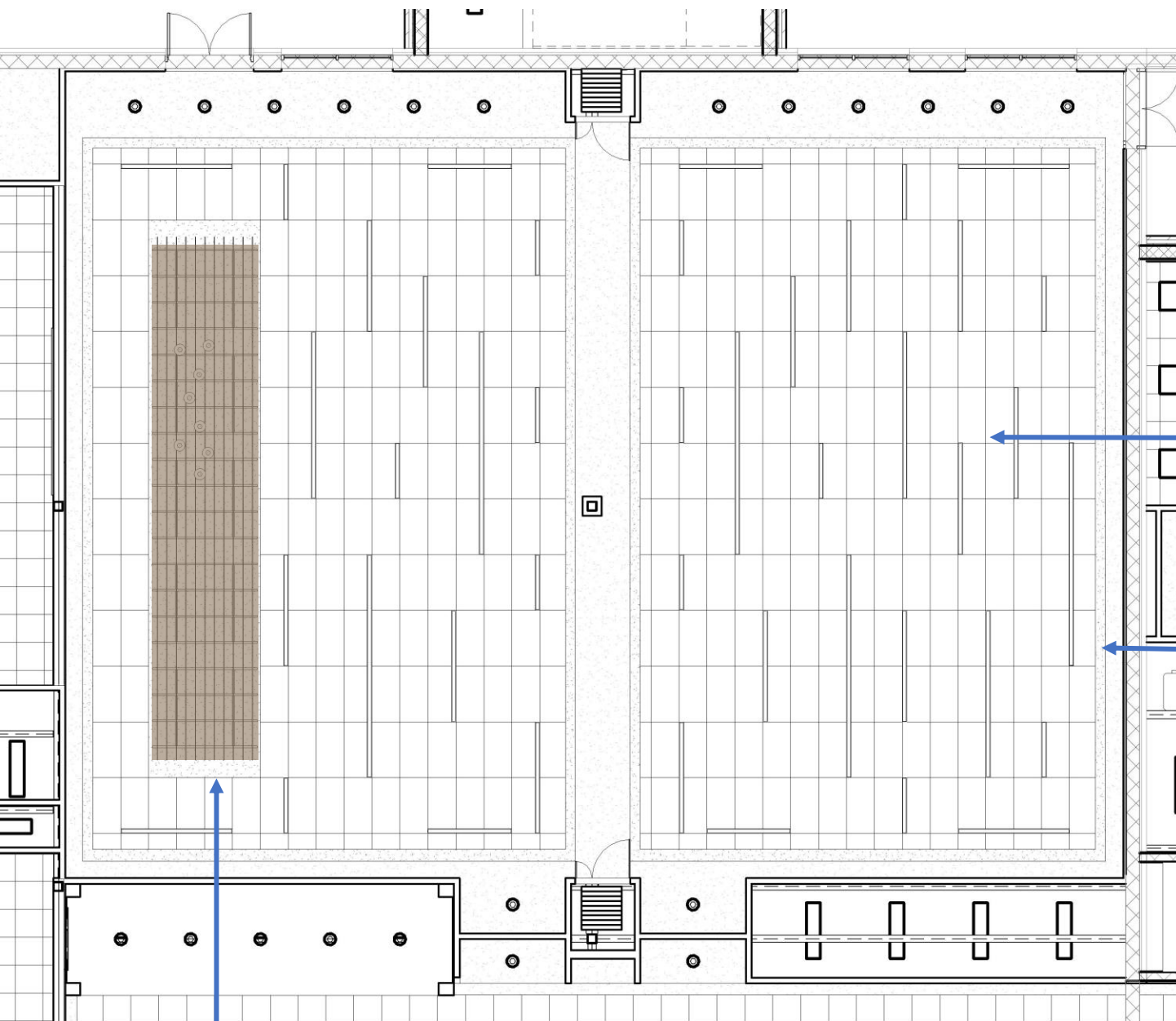
PAINTED GYPSUM SOFFIT

EXPOSED STRUCTURE (BLACK PAINT)

FELT BAFFLES



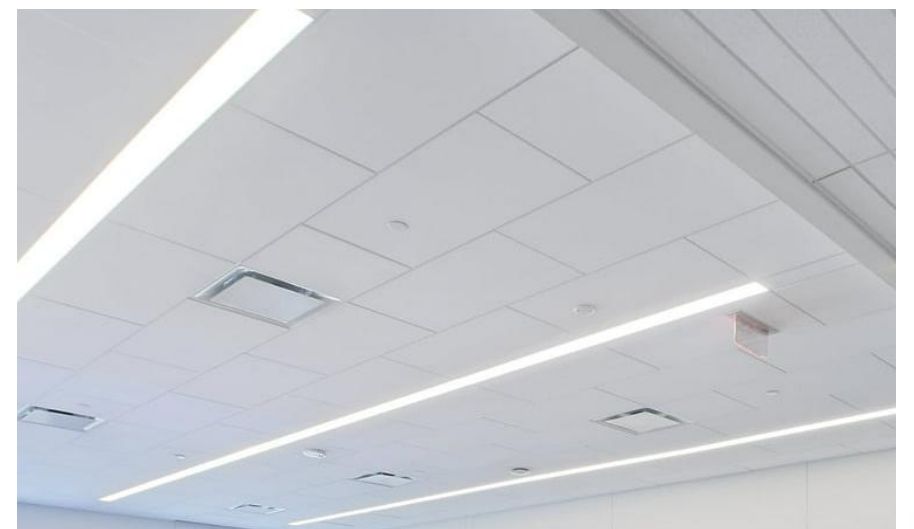
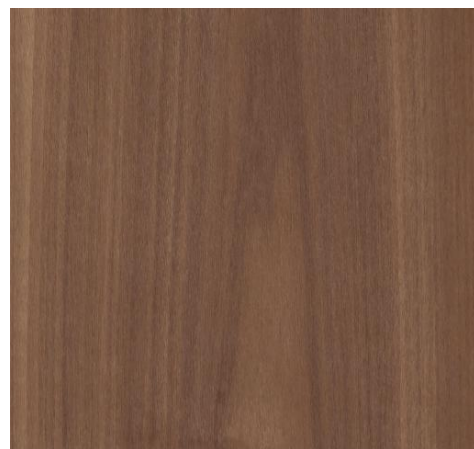
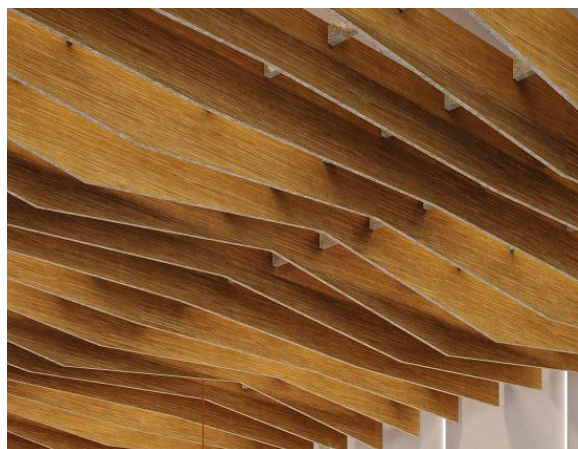
MATERIALS | FINISH CEILING PLAN – DINING ROOM OPTION 2



SUSPENDED 2' X 4' ACT

PAINTED GYPSUM SOFFIT

FELT BAFFLES



MATERIALS | FINISH CEILING PLAN – DINING ROOM OPTION 3

OPTION COMPARISON

OPTIONS 1 & 2



OPTION 3



OPTION COMPARISON

OPTIONS 1 & 2



OPTION 3



OPTION COMPARISON

OPTION 1



OPTION 2



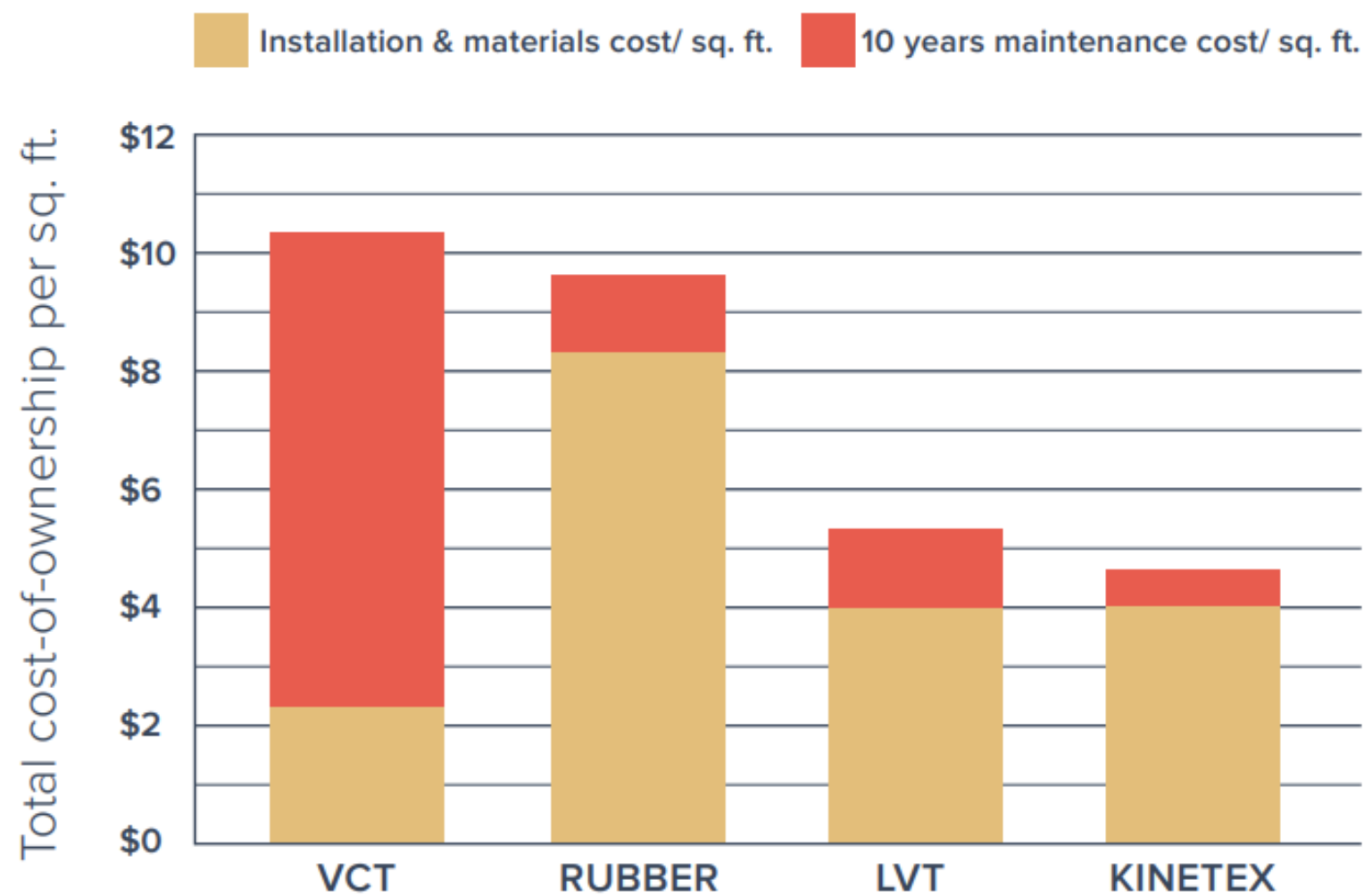
OPTION 3



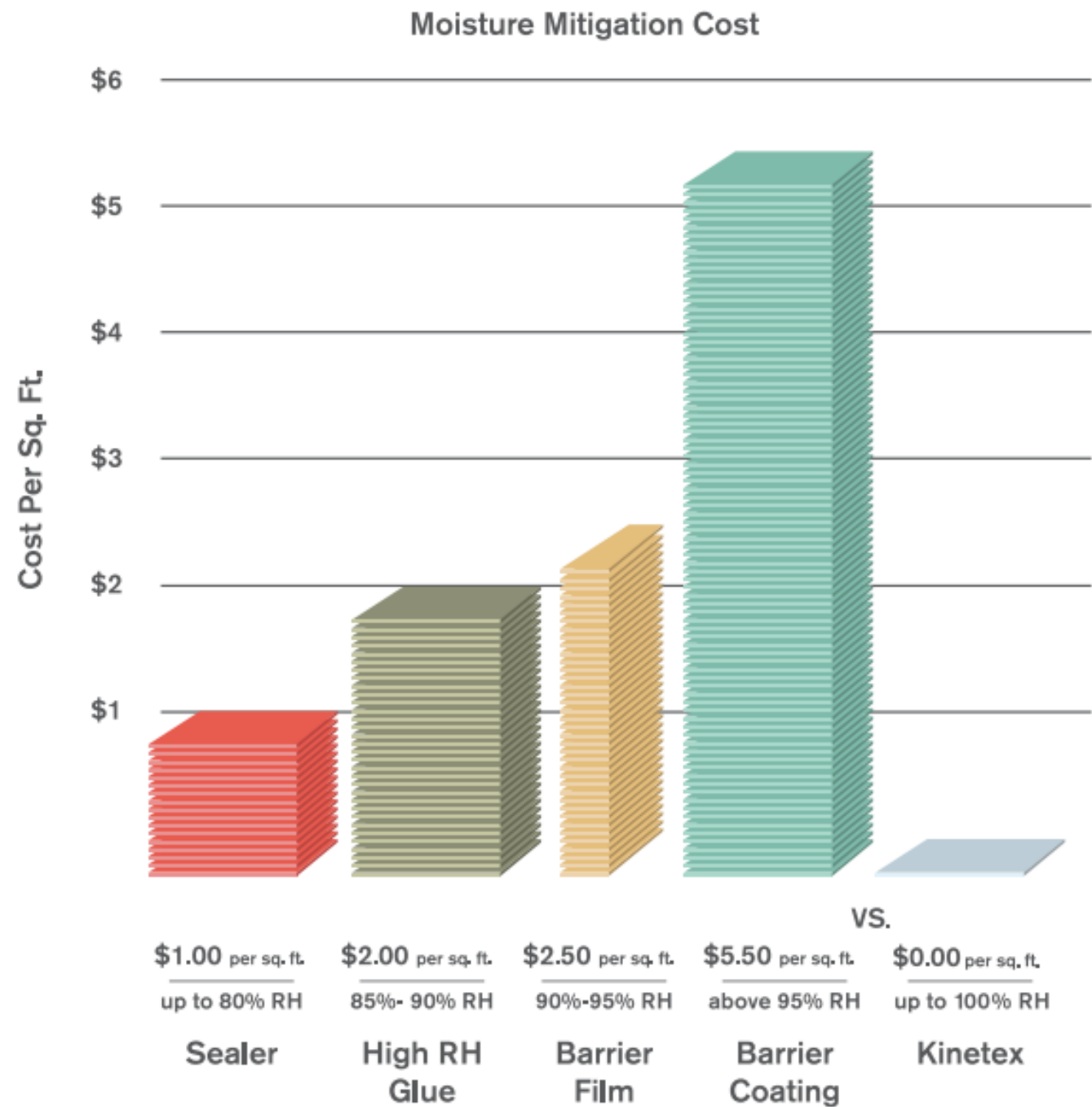
THANK YOU

iDs

Life Cycle Costs: Installation & Maintenance



Mitigate No More





leVel DIGITAL WALLCOVERINGS

Design #: L60501
Name: Canopy
Color/Style: Greige



SCALABILITY
This design is a raster-based image. It is created to be as scalable as possible, but the image may begin to degrade when scaled beyond 12 feet in height.



REPEAT
This design is not a repeating pattern. For significantly wide or tall installations, we will normally crop, stretch, or mirror the design to fit your space.



COLOR
This design primarily features colors that are textured, layered, transparent, or tonal in nature. As a result, custom colors may not reproduce entirely as expected.

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leVel DIGITAL WALLCOVERINGS

Design #: L405801
Name: Word Play
Color/Style: Black & White "Welcome"



SCALABILITY
This design is a raster-based image. It is created to be as scalable as possible, but the image may begin to degrade when scaled beyond 12 feet in height.



REPEAT
This design is not a repeating pattern. For significantly wide or tall installations, we will normally crop, stretch, or mirror the design to fit your space.



COLOR
This design features relatively solid, opaque colors, which lend themselves to customization. Custom colors will therefore mostly reproduce as expected.

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EXTERIOR

CANOPY AND FACADE REVIEW

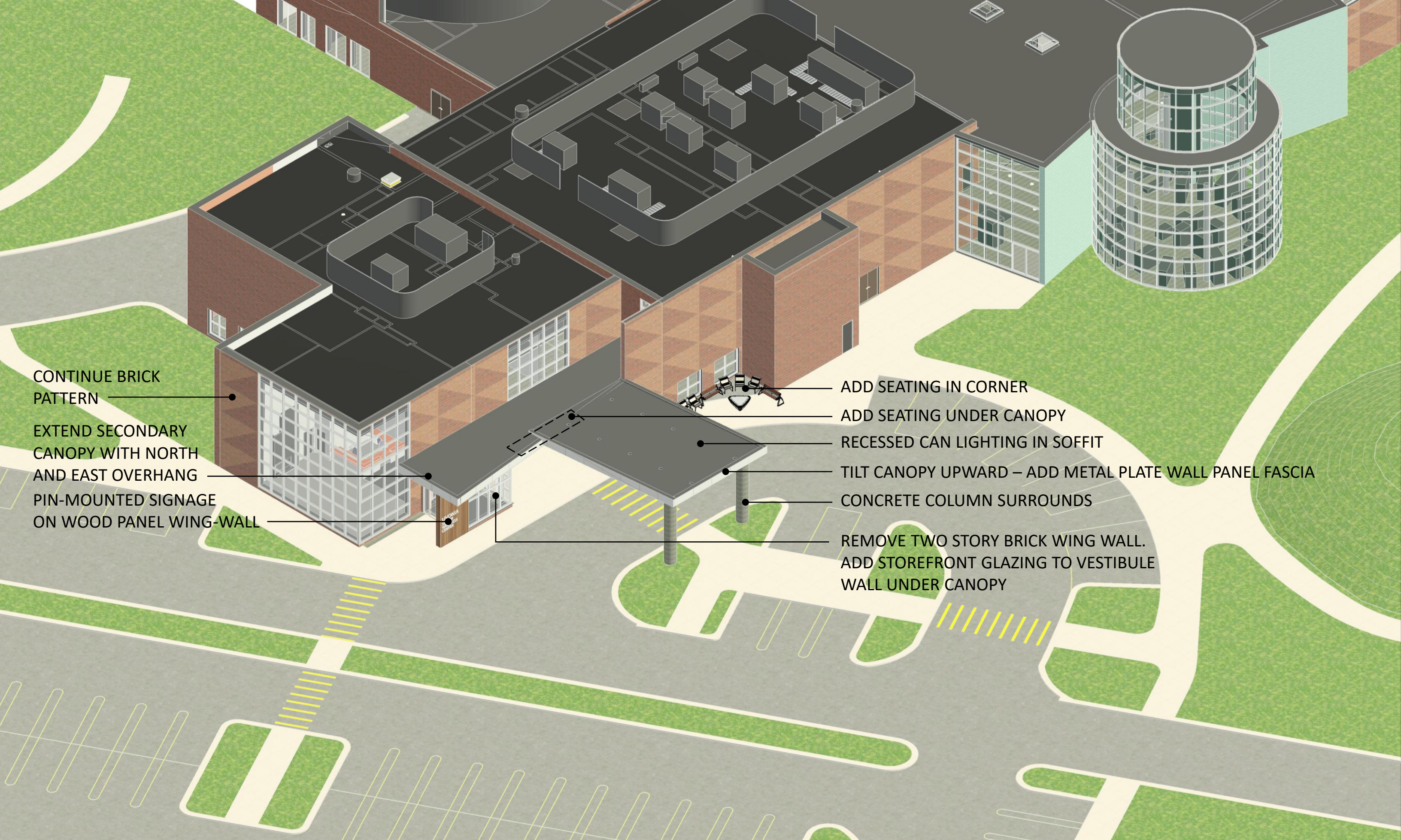


SENIOR CENTER ADDITION



CURRENT DESIGN

TDS



CONTINUE BRICK
PATTERN

EXTEND SECONDARY
CANOPY WITH NORTH
AND EAST OVERHANG

PIN-MOUNTED SIGNAGE
ON WOOD PANEL WING-WALL

ADD SEATING IN CORNER

ADD SEATING UNDER CANOPY

RECESSED CAN LIGHTING IN SOFFIT

TILT CANOPY UPWARD – ADD METAL PLATE WALL PANEL FASCIA

CONCRETE COLUMN SURROUNDS

REMOVE TWO STORY BRICK WING WALL.
ADD STOREFRONT GLAZING TO VESTIBULE
WALL UNDER CANOPY



EXTERIOR | PROPOSED DESIGN

TDS



EXTERIOR | PROPOSED DESIGN

KINETEX FLOORING

- HIGH PERFORMANCE SOFT FLOOR
- HIGH DURABILITY (HIGH DIMENSIONAL STABILITY AND CRUSH RESISTANCE)
- ACOUSTICAL PROPERTIES, CUSHIONED BACK (NRC)
- DESIGN OPPORTUNITIES IN PATTERN AND COLOR
- REDUCED ENVIRONMENTAL IMPACT
- DRY VACUUM MAINTENANCE
- STAIN RESISTANT
- CAN BE INSTALLED ON HIGH MOISTURE SLAB



CAPITAL OUTLAY AND INFRASTRUCTURE COMMITTEE MEETING
WEDNESDAY, JANUARY 22, 2025
7:00PM

A Capital Outlay and Infrastructure Committee meeting was held on Wednesday, January 22, 2025, at Livonia City Hall in the City Council Chambers on the 2nd floor.

Committee Members Present: Martha Ptashnik, Vice Chair
Carrie Budzinski, Member

Committee Members Absent: Rob Gjonaj-Donovic, Chair

City Council Members Present: Lynda L. Scheel

**City Officials
and Others Present:** Maureen Miller Brosnan, Mayor
Lori Miller, City Clerk
Eric Goldstein, Assistant City Attorney
Dave Varga, Chief of Staff
Debbie Lichtenberg, Finance Director
Mark Taormina, Planning and Economic Development Director
Todd Zilincik, City Engineer
Plante Moran Realpoint Representatives
Plante Moran Technologies Representatives

1. The subject matter of the planning, design and construction of the new Civic Center Campus. (CR 330-24)

The meeting convened at 7:02PM

The meeting began with a discussion of the IT contract and where we are at in the Master Plan.

Plante Moran Realpoint (PMR) Representative, Paul Theriault, explained the IT contract process to hire a separate outside tech company, needed to design and consult on the project. It was posted on MITN with five proposals submitted and three firms were interviewed.

Plante Moran Technologies (PMT) was the recommended firm, offering a \$384,500 contract to provide around \$5M in technology.

PMT was noted to be wholly separate from PMR and spoke about adaptability and growth of technology within the city.

Councilmember Carrie Budzinski offered an approving motion for PMT to be awarded the contract.

PMR Representative, Doug Smith, spoke on the Master Plan process and timeline:

- November 2024: Master Plan launched
- January 2025: Site analysis and Development Program to prepare the Framework Plan, with studies completed for the survey, traffic and environmental
- April/May 2025: PMR to present the final Master Plan, to include many interim meetings between now and then to provide updates

PMR is currently working on the Framework Plan to consider City Hall as the anchor. A decision will need to be made on the layout that makes the most sense to align with Vision 21.

A dynamic City Center is the vision for this project, which is guided by Vision 21, consisting of the following key design strategies:

- New City Center
- Great Mixed Use
- Design to unlock the site's greatest assets
- Pave the way for future development at Five and Farmington

Goals for the project were discussed:

- Livonia Community Green Connectors to allow for a bikeable and walkable area from Rotary Park to Hines, going through the City Center with options for transit
- A welcoming City Center with City Hall, Fire and Police Departments, Library, plazas and parks
- To provide experiential living with branded edges at Five and Farmington, with a possibility of a culinary street and a merchant market

Everything is driven by the budget with important points to consider:

- Decisions must be feasible and sustainable
- City Hall and the Senior Center are the important first steps
- Start small

- First phase must be meaningful and economically viable
- Move existing City Hall and Police Department buildings in order to rebuild
- Clear rules and expectations
- Use of public financing tools

A 20-year phasing strategy must be created for the development. Everyone should understand where we are headed.

Site-planning factors for City Hall:

- Developing an activated plan for the park/plaza connected to City Hall
- Welcoming
- Flexible
- Sustainability/stewardship
- Currently 54,500 sq. ft, down by approximately 40% to be fiscally responsible
- Focus on healthy spaces
- Daylight
- Effective resource management

City plaza to include:

- Wide appeal
- Community first
- Right sized
- Acknowledge adjacencies
- Seasonally appropriate
- Durable and cost effective

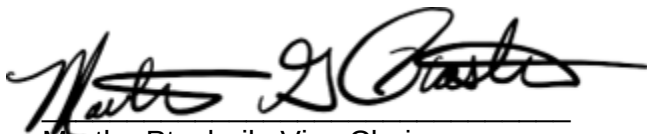
The meeting adjourned at 8:17PM.

The Committee recommends:

For the Law Department to draft an approving resolution awarding the IT contract to PM Technologies.

Note: This item will remain in Committee.

This meeting will be reported at the Regular Meeting of February 10, 2025.



Martha Ptashnik, Vice Chair

CAPITAL OUTLAY & INFRASTRUCTURE COMMITTEE MEETING
WEDNESDAY, JANUARY 22, 2025, 7:00PM

NAME

DEPT OR CONTACT INFO FOR NOTIFICATIONS*
*PERTAINING TO THE SUBJECT MATTER OF THIS MEETING

Marlene Kubafer

Lori Miller

City Clerk

Ava Wisniewski

PMR

Doug Smith

" "

Paul Theriault

" "

Dave Varga

Mayor's Office

TOO ZILINIK

CITY ENGINEER

Stephanie Corona Gilbane Building Co. - Livonia Res.

December 17, 2024

Ms. Maureen Miller Brosnan
Mayor
City of Livonia
3300 Civic Center Dr., Livonia, MI 48154

**RE: Livonia City Center Program – Technology Consulting Services Contract Award
Recommendation**

Dear Ms. Miller Brosnan:

Please find in this letter an update from Plante Moran Realpoint (PMR) regarding our assignment to assist and advise the City of Livonia (COL) in selecting a professional technology consulting firm for the Livonia City Center Program (LCCP). This update represents the mutual efforts of PMR, COL administration, staff, and legal counsel (the Project Team) to identify, evaluate, and recommend the most qualified firm.

The Technology Consulting Services for the LCCP includes the new City Hall, new Police Station, Fire Station No. 1 expansion and renovation, and outdoor gathering spaces; and is critical for establishing standardization of technology related systems throughout all LCCP facilities. It is also paramount to begin this process quickly in order to meet the program's overall timeline and budget.

SELECTION PROCESS

In October, the Project Team drafted a Scope of Work and request for proposal (RFP). This Scope of Work was also reviewed on several occasions in detail by the project team. PMR also reached out to approximately six technology consulting firms to garner interest in the RFP.

On November 12, 2024, the COL formally posted the RFP documents to MITN. The Project Team conducted a pre-proposal meeting on November 19, 2024, which six (6) firms participated in. After receiving proposals from five (5) firms on December 11, 2024, the Project Team evaluated them over the ensuing days.

The Project Team utilized a criteria-based selection (CBS) process to evaluate each firm's Proposal. The CBS process used pre-established and weighted criteria to evaluate the proposals and objectively shortlist three (3) firms for interviews. Selection criteria included the firm's relevant

project experience, proposed team's experience, available manpower, proposed fee, client references, and firm approach to the project.

The Project Team conducted interviews with the shortlisted firms on December 13, 2024. The selection committee consisted of staff from PMR as well as Dave Varga, Mark Taormina, Debbie Lichtenberg, Casey O'Neil, and Nathan Shaw. Upon completion of the interviews and after subsequent discussion, the Project Team completed the CBS scoring process.

This recommendation is based on the fact that the firm achieved the highest CBS score for the proposed Project. This score was achieved due to the firm's experience, team experience, the firm's approach to completing the project on schedule and within budget, and strong presentation/interview.

RECOMMENDATION

The Project Team recommends awarding the contract for Technology Consulting services for the Livonia City Center Program to Plante Moran (separate firm than Plante Moran Realpoint), pending final review of terms by legal counsel.

The total contract award recommendation is **\$384,500** and is further defined as follows:

\$383,500	Proposed Fee 7.67% of the cost of the work
\$ 1,000	Not-to-Exceed Reimbursables
\$384,500	Total Contract Award Recommendation

The fee will be a fixed lump-sum amount based upon the scope, budget, and timeline established in the RFP. The reimbursables are a not-to-exceed amount and will be billed as incurred.

If you have any questions regarding the above information, please feel free to contact me at (248) 227-4691 or rick.erickson@plantemoran.com. The Project Team is also available at the COL's convenience to answer any questions.

Sincerely,

Rick Erickson, AIA
Plante Moran Realpoint

CC: Dave Varga, City of Livonia
Mark Taormina, City of Livonia
Debbie Lichtenberg, City of Livonia
Paul Theriault, Plante Moran Realpoint

Andy Fountain, Plante Moran Realpoint
ENCLOSURES: Proposal/CBS Scoring Summary

**LIVONIA CITY CENTER PROGRAM
TECHNOLOGY CONSULTING SERVICES
PROPOSAL + CBS SUMMARY
DECEMBER 16, 2024**

Category	Communications By Design	Malor + Co.	Metro Technology Services	Plante Moran	Tower Pinkster	AVERAGES
General Information						
Local Office	Grand Rapids, MI	New York, NY	Mt. Clemens, MI	Southfield, MI	Kalamazoo, MI	
Full-Time Personnel at Local Office	11		6	100+		
Headquarters	Grand Rapids, MI		Mt. Clemens, MI	Southfield, MI	Kalamazoo, MI	
Full-Time Personnel for Entire Firm	11		6	100+		
Contact	Sara Easter (616) 304-0044	Garly Benoit (212) 498-9732	Tom Giachino (248) 321-5242	Mark Warner (248) 223-3799	Eric Rinehart (269) 491-1909	
Acknowledge Addenda	Yes	Yes	Yes	Yes	Yes	
Agree to Contract Terms	Yes	Yes	Yes	No	No	
Alternate Contract Language Provided	N/A	N/A	N/A	Yes	Yes	
Required Documents Submitted	Yes	No	Yes	Yes	Yes	
Consultants:	Geotech-Ghassen Gareeb-External Fiber Engineering	None	None	None	Buist Electric	
Firm has proven that they meet the Minimum Qualifications	Yes		Yes	Yes	Yes	
1. In business for ten consecutive years	Yes		Yes	Yes	Yes	
2. Licensed in State of Michigan	Yes		Yes	Yes	Yes	
3. Five public sector clients in last ten years	Yes		Yes	Yes	Yes	
4. Completed \$1M for five public sector clients in ten years	Yes		Yes	Yes	Yes	
Attended Pre-proposal Meeting	Yes	No	No	Yes	Yes	
Proposed Fee/ Hours Information						
Stated Limitation on the Cost of the Work (SLCW)	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000
Fixed Fee	\$325,000	\$275,000	\$275,000	\$383,500	\$480,000	\$347,700
Percentage Fee (%) for addition or reduction of project scope	6.50%	5.50%	5.50%	7.67%	9.60%	6.95%
Markup on Reimbursables (%)	0.00%	15.00%	0.00%	0.00%	0.00%	3.00%
Not-to exceed reimbursable allowance (\$)	\$2,000	\$10,000	\$0.00	\$1,000	\$30,000	\$8,600
Criteria Based Selection (Criteria / Scores)						
Firm's experience as related to similar projects	100	0	60	100	60	64
Firm's proposed team experience as related to similar projects	60	0	60	60	80	52
Evidence of capabilities to perform all requirements reflected in the RFP	45	0	45	45	45	36
Proposed fees and costs	60	80	80	40	0	52
Client References	15	15	15	15	15	15
Project approach	100	20	60	100	100	76
Total (unfactored)	380	115	320	360	300	295
Quantitative Score (Factored at 70%)	266	81	224	252	210	207
Pre-Interview Ranking	1	5	3	2	4	3
Interview Scores	30	0	138	150	0	64
Total Weighted Scores (Proposal + Interview)	296	81	362	402	210	270
Final Ranking / Scoring	3	5	2	1	4	3
Additional Information						

LIVONIA CITY CENTER PROGRAM
TECHNOLOGY CONSULTING SERVICES
PROPOSAL + CBS SUMMARY
DECEMBER 16, 2024

Relevant Projects	Anchor Bay School District; Caledonia Community Schools; Clarkston Community Schools; Detroit Public Schools; Eastpointe Community Schools; Hudsonville Public Schools; Kentwood Public Schools; Lake Shore Public Schools; Ludington Area School District; Rockford Public Schools; Southfield Public Schools; Woodhaven-Brownstown School District		Macomb County Central Campus Renovation; Macomb County Central Intake and Assessment Center; Chippewa Valley Schools; Warren Woods Public Schools	Birmingham Public Schools; Cerritos College, CA; City of Fort Walton Beach, FL; City of Independence, MO; City of Oregon City, OR; City of Panama City Beach, FL; City of Plainview, TX; City of Wayne, MI; Contra Costa Water District, CA; County of Forsyth, GA; County of Garfield, CO; County of Kent, MI; County of Lee, FL; County of Osceola, FL; DeKalb County Schools District, GA; Detroit Public Schools, MI; Kentwood Public Schools, MI; Lake Orion Community Schools, MI; Southgate Community Schools, MI	Kalamazoo Public Schools district-wide ISIS services; Okemos Public Schools district-wide security upgrades; Judge Charles Pratt Justice Center; WMU miscellaneous ISID security design projects; Catalyst Development tech + security design; New Buffalo Township FD + PD technology; WMU Dunbar Hall renovation	N/A
Experience with PMR	Southfield Schools, Woodhaven Schools, Taylor Schools, Detroit Public Schools, Caledonia Schools	N/A	Macomb County, Oak Park Schools, Madison Schools	Farmington Schools; Novi Schools, Clark Retirement, Grosse Pointe Schools, Lincoln Schools, Harbor Springs Schools	Northview Schools, Grand Rapids Public Schools, Caledonia Schools	N/A

Councilmember Donovic reported on the subject of planning, design and construction of new Civic Center Campus as discussed at the Capital Outlay & Infrastructure Committee meeting of December 11, 2024, and indicated the matter will remain in committee. (CR 330-24)

On a motion by Vice President Ptashnik, supported by Councilmember Morgan, and unanimously adopted, it was:

#432-24 RESOLVED, that having considered correspondence from Plante Moran Realpoint, LLC ("PMR"), dated December 5, 2024, submitted pursuant to PMR's assignment to assist the City in selecting a firm to perform construction management services for the Livonia City Hall Project (the "Project"), setting forth the process by which a Project Team consisting of representatives of PMR, and the City's administration, staff and legal counsel posted a request for proposal and evaluated proposals received, including interviews with short-listed firms, and now recommends awarding the contract for construction management services to Frank Rewold and Sons ("FRS") for a total contract price to be 6.87% of the to be agreed guaranteed maximum price for construction in addition to the pre-construction services which are to be priced at a value not to exceed \$81,380.00, the Council does hereby approve the recommendation and authorizes the Mayor and City Clerk, for and on behalf of the City of Livonia, to execute a contract between the City of Livonia and Frank Rewold and Sons, 303 E. Third Street, Suite 300, Rochester, MI 48307, subject to approval as to form and substance by the City's Department of Law, in an aggregate amount of fees and reimbursables not to exceed \$81,380.00 for pre-construction services and 6.87% of the to be determined guaranteed maximum price for overall construction of the new city hall; FURTHER, the Council does hereby authorize an expenditure of such amounts for such purposes as incurred from Account No. 418-000-813-000 (Professional Fees).

<i>UNFINISHED BUSINESS ITEM 14. (Regular Meeting of December 18, 2024)</i>
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Motion:	Ptashnik
Second:	Morgan
Ayes:	Ptashnik, Budzinski, Morgan, Donovic and McCullough
Nays:	None
Absent:	Toy

On a motion by Councilmember Donovic, supported by Vice President Ptashnik, and unanimously adopted, it was:

#433-24 RESOLVED, that having considered correspondence from Plante Moran Realpoint, LLC ("PMR"), dated December 5, 2024, submitted pursuant to PMR's assignment to assist the City in selecting a firm to perform professional architectural/engineering services for the construction of a new Police Headquarters, setting forth the process by which a Project Team consisting of representatives of PMR, and the City's administration, staff and legal counsel posted a request for proposal and evaluated proposals received, including interviews with short-listed firms, and now recommends awarding the contract for professional architectural/engineering services to Hobbs + Black for a total contract price of \$1,658,000.00, with the architectural/engineering services priced at a value of 4.79% of the cost of the overall construction of the building, which fee projects to be \$1,628,000.00, and reimbursables priced at a not to exceed value of \$30,000.00, the Council does hereby approve the recommendation and authorizes the Mayor and City Clerk, for and on behalf of the City of Livonia, to execute a contract between the City of Livonia and Hobbs + Black, 100 N. State St., Ann Arbor, MI 48104, subject to approval as to form and substance by the City's Department of Law, in an aggregate amount of fees and reimbursables of \$1,658,000.00; FURTHER, the Council does hereby authorize an expenditure of such amounts for such purposes as incurred from Account No. 418-000-813-000 (Professional Fees).

A representative from Plante Moran Realpoint, LLC, was present to answer any questions of Council.

<i>UNFINISHED BUSINESS ITEM 14. (Regular Meeting of December 18, 2024)</i>
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Motion:	Donovic
Second:	Ptashnik
Ayes:	Ptashnik, Budzinski, Morgan, Donovic and McCullough
Nays:	None
Absent:	Toy

December 5, 2024

Ms. Maureen Miller Brosnan
Mayor
City of Livonia
3300 Civic Center Dr., Livonia, MI 48154

RE: Livonia City Center – New Police Station Facility
Architectural/Engineering Services Contract Award Recommendation

Dear Ms. Miller Brosnan:

Please find in this letter an update from Plante Moran Realpoint (PMR) regarding our assignment to assist and advise the City of Livonia (COL) in selecting a professional architectural/engineering (A/E) firm for the new Police Station facility. This update represents the mutual efforts of PMR, COL administration, staff, and legal counsel (the Project Team) to identify, evaluate, and recommend a firm for the new Police Station facility.

The Architectural and Engineering Services for the Police Station Scope of Work is critical to designing the new facility. It is also paramount to begin this process quickly in order to meet the program's overall timeline and budget.

SELECTION PROCESS

In October, the Project Team drafted a Scope of Work and request for proposals (RFP). This Scope of Work was also reviewed on several occasions in detail by the project team. PMR also reached out to roughly a dozen architectural/ engineering firms to garner interest in the RFP.

On November 1, 2024, the COL formally posted the RFP documents to MITN. The Project Team conducted a pre-proposal meeting on November 7, 2024, which twelve (12) firms participated in. After receiving proposals from eight (8) firms on November 22, 2024, the Project Team evaluated them over the ensuing days.

The Project Team utilized a criteria-based selection (CBS) process to evaluate each A/E firm's Proposal. The CBS process used pre-established and weighted criteria to evaluate the proposals and objectively shortlist three (3) A/E firms for interviews. Selection criteria included the firm's relevant project experience, proposed team's experience, past experience with the COL, available manpower, proposed fee, and firm approach to the project.

The Project Team conducted interviews with the shortlisted firms on December 3, 2024. The selection committee consisted of staff from PMR as well as Mayor Maureen Miller Brosnan, Dave Varga, Martha Ptashnik, Mark Taormina, Dave Lear, Chief Thomas Goralski and Brandon McCullough. Upon completion of the interviews and after subsequent discussion, the Project Team completed the CBS scoring process.

This recommendation is based on the fact that the firm achieved the highest CBS score for the proposed Project. This score was achieved due to the firm's experience, team experience, the firm's approach to completing the project on schedule and within budget, and strong presentation/interview.

RECOMMENDATION

The Project Team recommends awarding the A/E services contract for the new Police Station Facility to Hobbs + Black, pending final review of terms by legal counsel.

The total contract award recommendation is **\$1,658,000** and is further defined as follows:

\$1,628,000	Proposed Fee 4.79% of the cost of the work
\$ 30,000	Not-to-Exceed Reimbursables
\$1,658,000	Total Contract Award Recommendation

The A/E fee will be a fixed lump-sum amount based upon the scope, budget, and timeline established in the RFP. The reimbursables are a not-to-exceed amount and will be billed as incurred.

If you have any questions regarding the above information, please feel free to contact me at (248) 227-4691 or rick.erickson@plantemoran.com. The Project Team is also available at the COL's convenience to answer any questions.

Sincerely,

Rick Erickson, AIA
Plante Moran Realpoint

CC: Dave Varga, City of Livonia
Mark Taormina, City of Livonia
Debbie Lichtenberg, City of Livonia
Paul Theriault, Plante Moran Realpoint
Andy Fountain, Plante Moran Realpoint

ENCLOSURES: A/E Proposal/CBS Scoring Summary

December 6, 2024

Ms. Maureen Miller Brosnan
Mayor
City of Livonia
3300 Civic Center Dr., Livonia, MI 48154

RE: Livonia City Center – New City Hall Facility
Construction Management Services Contract Award Recommendation

Dear Ms. Miller Brosnan:

Please find in this letter an update from Plante Moran Realpoint (PMR) regarding our assignment to assist and advise the City of Livonia (COL) in selecting a professional Construction Management (CM) firm for the new City Hall facility. This update represents the mutual efforts of PMR, COL administration, staff, and legal counsel (the Project Team) to identify, evaluate, and recommend a firm for the new City Hall facility.

The Construction Management Services for the new City Hall facility play a critical role in ensuring the scope of work reflected in the design/construction documents aligns with the defined project budget; expediting material procurement, and ensuring construction is completed within the schedule parameters. It is also paramount to begin this process quickly to meet the program's overall timeline and budget.

SELECTION PROCESS

In October, the Project Team drafted a Request for Proposal (RFP) outlining the Construction Managers Scope of Work and project parameters. This RFP was reviewed on several occasions in detail by the project team. PMR reached out to approximately ten Construction Management firms to garner interest in the RFP.

On November 1, 2024, the COL formally posted the RFP documents to MITN. The Project Team conducted a pre-bid meeting on November 7, 2024; which twelve (12) firms participated in. After receiving proposals from nine (9) firms on November 22, 2024, the Project Team evaluated them over the ensuing days.

The Project Team utilized a criteria-based selection (CBS) process to evaluate each firm's Proposal. The CBS process used pre-established and weighted criteria to evaluate the proposals and

objectively shortlist three (3) firms to interview. Selection criteria included firm's experience as related to similar projects, firm's proposed team as related to similar projects, proposed fees/costs, client references, Experience Modification Rating, and project approach.

The Project Team conducted interviews with the shortlisted firms on November 26, 2024. The selection committee consisted of staff from PMR as well as Dave Varga, Debra Lichtenberg, Mark Taormina, and Brandon McCullough. Upon completion of the interviews and after subsequent discussion, the Project Team completed the CBS scoring process.

This recommendation is based on the fact that the firm achieved the highest CBS score for the proposed Project. This score was achieved due to the firm's experience, team experience, approach to completing the project on schedule and within budget, and strong presentation/interview.

RECOMMENDATION

Based on the information noted above, the Project Team recommends awarding the contract for Construction Management services for the new City Hall Facility to Frank Rewold and Sons (FRS), pending final review of terms by legal counsel.

The total contract award recommendation is **\$81,380** and is further defined as follows:

\$ 81,380	Preconstruction Services
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Construction Services Personnel Costs and Reimbursable Expenses will be determined and submitted for approval upon completion of the Guaranteed Maximum Price (GMP). The Construction Manager's overhead and profit will be 1.9% of the cost of the work. The CM fee will be a percentage of the Cost of the Work as defined in the RFP. The reimbursables are a not-to-exceed amount and will be billed as incurred.

If you have any questions regarding the above information, please feel free to contact me at (248) 227-4691 or rick.erickson@plantemoran.com. The Project Team is also available at the COL's convenience to answer any questions.

Sincerely,

Rick Erickson, AIA
Plante Moran Realpoint

CC: Dave Varga, City of Livonia
Mark Taormina, City of Livonia

Debbie Lichtenberg, City of Livonia
Paul Theriault, Plante Moran Realpoint
Andy Fountain, Plante Moran Realpoint

ENCLOSURES: CM Proposal/CBS Scoring Summary

AWARD OF CONTRACT: The Mayor's Office, re: for Civil Engineering services to be performed on the Civic Center campus

BACKGROUND:

As part of the process of creating a City Center per the Livonia Vision 21 plan, the City has requested bids from various design professionals to craft the necessary design and construction documents. The City has selected OHM (Orchard, Hiltz & McCliment, Inc.) to perform the required civil engineering services for the project.

The Civil Engineer will develop and convey an understanding of the site's physical characteristics, including opportunities and challenges, through their initial due diligence. As a result, the Civil Engineer will help take the City Center Master Plan's infrastructure from drawing board to reality through their assistance in the design of innovative corridor improvements, phased infrastructure including stormwater management and public spaces that facilitate an economically feasible and sustainable site redevelopment. After working collaboratively with the Master Planner, the Civil Engineer will be expected to engineer site work and utilities including, but not limited to, building pads and utilities within five feet of civic buildings separately designed by Architecture/ Engineer firms whose selection may be simultaneous and/or subsequent to the Master Planner and Civil Engineer. Additionally, they will be expected to coordinate the completion of required due diligence should site issues be uncovered.

Recommended Resolution

RESOLVED, that having considered correspondence from Plante Moran Realpoint, LLC ("PMR"), dated October 14, 2024, submitted pursuant to PMR's assignment to assist the City in selecting a firm to perform civil engineering services for the Livonia City Center Project, setting forth the process by which a Project Team consisting of representatives of PMR, and the City's administration, staff and legal counsel posted a request for proposal and evaluated proposals received, including interviews with short-listed firms, and now recommends awarding the contract for civil engineering services to Orchard, Hiltz & McCliment, Inc. ("OHM"), for a total contract price not to exceed 6.5% of the cost of work, THE COUNCIL DOES HEREBY APPROVE THE RECOMMENDATION AND AUTHORIZES THE MAYOR AND CITY CLERK, FOR AND ON BEHALF OF THE CITY OF LIVONIA, TO EXECUTE A CONTRACT BETWEEN THE CITY OF LIVONIA AND OHM, 34000 PLYMOUTH ROAD, LIVONIA, MICHIGAN 48150, SUBJECT TO APPROVAL AS TO FORM AND SUBSTANCE BY THE CITY'S DEPARTMENT OF LAW, IN AN AGGREGATE AMOUNT OF FEES AND REIMBURSEABLES NOT TO EXCEED 6.5% OF THE COST OF WORK; FURTHER, the Council does hereby authorize an expenditure of such amounts for such purposes as incurred from Account No. 418-000-813-000 (Professional Fees); FURTHER, the Council does hereby authorize such action without competitive bidding because the City undertook an extensive Request for Proposal to develop the foregoing recommendation, and no advantage to the City would result from requiring competitive bidding, and such action is taken in accordance with Section 3.04.140.E.2.b of the Livonia Code of Ordinances, as amended.

AWARD OF CONTRACT: The Mayor's Office, re: for Surveying services to be performed on the Civic Center campus

BACKGROUND:

As part of the process of creating a City Center per the Livonia Vision 21 plan, the City has requested bids from various design professionals to craft the necessary design and construction documents. The City has selected Spalding DeDecker to perform the required surveying services for the project.

The Surveyor will develop a full site map for the project that includes the locations and layout of the site and all built infrastructure. The surveyor will identify utilities, and topographical and other environmental features that might impact the eventual site plan and buildout of the City Center. The Surveyor's work will inform the Civil Engineer and the Master Planner on design requirements for the site and the Survey will be available for future reference on all required buildout and repairs conducted on the campus.

Recommended Resolution

RESOLVED, that having considered correspondence from Plante Moran Realpoint, LLC ("PMR"), dated October 14, 2024, submitted pursuant to PMR's assignment to assist the City in selecting a firm to perform professional survey services for the Livonia City Center Project, setting forth the process by which a Project Team consisting of representatives of PMR, and the City's administration, staff and legal counsel posted a request for proposal and evaluated proposals received, including interviews with short-listed firms, and now recommends awarding the contract for professional survey services to Spalding DeDecker for a total contract price not to exceed \$67,750.00, THE COUNCIL DOES HEREBY APPROVE THE RECOMMENDATION AND AUTHORIZES THE MAYOR AND CITY CLERK, FOR AND ON BEHALF OF THE CITY OF LIVONIA, TO EXECUTE A CONTRACT BETWEEN THE CITY OF LIVONIA AND SPALDING DEDECKER, 27333 MEADOWBROOK ROAD, SUITE 210, NOVI, MICHIGAN 48377, SUBJECT TO APPROVAL AS TO FORM AND SUBSTANCE BY THE CITY'S DEPARTMENT OF LAW, IN AN AGGREGATE AMOUNT OF FEES AND REIMBURSEABLES NOT TO EXCEED \$67,750.00; FURTHER, the Council does hereby authorize an expenditure of such amounts for such purposes as incurred from Account No. 418-000-813-000 (Professional Fees); FURTHER, the Council does hereby authorize such action without competitive bidding because the City undertook an extensive Request for Proposal to develop the foregoing recommendation, and no advantage to the City would result from requiring competitive bidding, and such action is taken in accordance with Section 3.04.140.E.2.b of the Livonia Code of Ordinances, as amended.

AWARD OF CONTRACT - The Mayor's Office, re: for Master Planning services for the new Civic Center and for Architectural and Engineering services for a new City Hall

BACKGROUND:

As part of the process of creating a City Center per the Livonia Vision 21 plan, the City has requested bids from various design professionals to craft the necessary design and construction documents. The City has selected HED as the most qualified candidate to provide both the Master Plan and Architectural work required for this project.

The master planning scope of work will involve collaborating with City Administration, City Council, PMR, other city consultants, and community stakeholders to craft a master plan for the development of the Livonia Civic Center. The Master Plan will become the framework for future redevelopment of the site which is expected to commence in multiple phases over the next several years. The planner is tasked with leveraging 5 Mile and Farmington Road corridor improvements to spur commercial development and redevelopment, along with a mix of new housing alternatives, active and passive public space as well as civic infrastructure.

The vendor will also provide architectural and engineering work including the creation of schematic, design, and construction documents for the new City Hall building. Their work will include all designs for the building's exterior envelope, interior, elevators, HVAC, plumbing, electrical, mechanical, lighting and security systems. The Architect will also coordinate work with the project's civil engineer, construction manager and various specialized consultants such as the City's technology consultant to ensure that all design requirements are being met.

Recommended Resolution

RESOLVED, that having considered correspondence from Plante Moran Realpoint, LLC ("PMR"), dated October 14, 2024, submitted pursuant to PMR's assignment to assist the City in selecting a firm to perform master planning services for the Livonia Civic Center Project (the "Project") and a professional architectural/engineering firm for the Project, setting forth the process by which a Project Team consisting of representatives of PMR, and the City's administration, staff and legal counsel posted a request for proposal and evaluated proposals received, including interviews with short-listed firms, and now recommends awarding the contract for master planning and professional architectural/engineering services to Harley Ellis Devereaux ("HED") for a total contract price not to exceed \$1,839,050.00 with the master planning services priced at a value not to exceed \$322,500.00, and the architectural/engineering services priced at a value not to exceed \$1,516,550.00, THE COUNCIL DOES HEREBY APPROVE THE RECOMMENDATION AND AUTHORIZES THE MAYOR AND CITY CLERK, FOR AND ON BEHALF OF THE CITY OF LIVONIA, TO EXECUTE A CONTRACT BETWEEN THE

CITY OF LIVONIA AND HED, 123 WEST FIFTH STREET, ROYAL OAK, MICHIGAN 48067, SUBJECT TO APPROVAL AS TO FORM AND SUBSTANCE BY THE CITY'S DEPARTMENT OF LAW, IN AN AGGREGATE AMOUNT OF FEES AND REIMBURSEABLES NOT TO EXCEED \$1,839,050.00; FURTHER, the Council does hereby authorize an expenditure of such amounts for such purposes as incurred from Account No. 418-000-813-000 (Professional Fees); FURTHER, the Council does hereby authorize such action without competitive bidding because the City undertook an extensive Request for Proposal to develop the foregoing recommendation, and no advantage to the City would result from requiring competitive bidding, and such action is taken in accordance with Section 3.04.140.E.2.b of the Livonia Code of Ordinances, as amended.

CAPITAL OUTLAY AND INFRASTRUCTURE COMMITTEE MEETING
MONDAY, OCTOBER 14, 2024
7:00PM

A Capital Outlay and Infrastructure Committee meeting was held on Monday, October 14, 2024, at Livonia City Hall in the City Council Chambers on the 2nd floor.

Committee Members Present: Rob Gjonaj-Donovic, Chair
Jim Jolly, Vice Chair
Carrie Budzinski, Member

Committee Members Absent: Brandon McCullough, Council President
Scott Morgan, City Councilmember
Laura Toy, Councilmember

City Council Members Present: Martha Ptashnik, Council Vice President

**City Officials
and Others Present:** Maureen Miller Brosnan, Mayor
Carter Fisher, City Attorney
Dave Varga, Chief of Staff
Debbie Lichtenberg, Finance Director
Mark Taormina, Planning and Economic Development
Director
Todd Zilincik, City Engineer
Dave Lear, Assistant City Engineer
Paul Theriault, Plante Moran Realpoint
Doug Smith, Plante Moran Realpoint
Ava Wisniewski, Plante Moran Realpoint

1. The subject matter of the planning, design and construction of the new Civic Center Campus. (CR 330-24)
--

The meeting convened at 7:02 pm, led by Committee Chair, Rob Gjonaj-Donovic.

The Mayor started off the meeting giving us an update on the Civic Center Campus project and the recent interviews of key partners in Professional Services contracts.

Plante Moran Realpoint (PMR), on behalf of the city explained the bids that went out to public bid for multiple professional services.

The Administration is ultimately recommending companies HED for Master Planning services for the entire site and OHM for Civil Engineering for the entire city site. HED for architectural and engineering services for the City Hall project specifically, and Spalding DeDecker for site surveying services and for a traffic study of the existing intersection.

The Project Team, made up of city staff and PMR conducted preproposal meetings with dozens of local and national firms for the above professional services that were all publicly bided.

The traffic study will go out a mile in each direction and is an initial study of current traffic flows and patterns to gather base line data.

PMR explained that as the Project Team creates the master plan, the traffic study vendor will conduct another study to analyze the impact to traffic flows.

There was concealable discussion about the future of the 5 Mile and Farmington Roads intersection and that the 6 lanes of roadway in each direction should be considered for changes to the number of lanes and flow of traffic.

Some mentioned that these lanes and this intersection would need to be altered to capture the identity of a downtown area with walkability and safer access to pedestrian foot traffic for the success of the future Civic Center Campus. But most importantly the safety of pedestrians walking, running, biking, shopping, and living.

Multiple firms bid on the traffic study contract; the administration is recommending the contract be awarded to Spalding DeDecker in the amount of \$17,700. This is under the \$20,000 City Council purchasing threshold, so it doesn't need a Council vote.

This vendor, Spalding DeDecker is a part of the cities already pre-qualified bidders, and our engineering department works with this vendor.

The next item was for Survey Services for the entire Civic Center Campus. Multiple companies publicly bid on the survey services professional contract.

The survey helps the master planners, architects, and engineers determine where underground utilities are. Helps determine where the boundary lines are and determine the topographical layout of the entire site.

Multiple firms bid on the survey services contract; the administration is recommending the contract be awarded to Spalding DeDecker in the amount of \$67,750. This vendor, Spalding

DeDecker is also a part of the cities already pre-qualified bidders, and our engineering department works with this vendor.

The next item was for Civil Engineering firms for the entire Civic Center Campus. Multiple firms publicly bid on Civil Engineering work, they were interviewed by a panel of city staff and PMR.

OHM talked about the future of the 5 mile and Farmington Roads intersection. They would work with Wayne County, who owns the roads, to rework the intersection, boulevards, and thoroughfares. They are very experienced with roads and dealing with the county authorities.

They look for ways to yes as opposed to no. They will work on storm water sewers, and other various utilities services. They work on pedestrian walkways to keep the residents safe and help with the layout of builds in conjunction with our city engineering department and other professional services.

PMR explained the going rate is 5% to 15% for civil engineering services of the project, OHM is 6.5%. The final price is not known yet, PMR explained the city can change to a fixed fee as opposed to percentage base if determinized to be the best deal for the city.

Multiple firms bid on the Civil Engineering services contract; the Administration is recommending the contract be awarded to OHM. This vendor, OHM is also a part of the cities already pre-qualified bidders, and our engineering department works with this vendor. OHM also worked on the Livonia Vision 21 Master Plan.

The next item was for Master Planning firms for the entire Civic Center Campus. Multiple firms publicly bid on Master Planning work, they were interviewed by a panel of city staff and PMR.

HED does a lot of local work but also national, so they have vast experience and creative abilities.

HED is bringing on a sub consultant to assist with the work, Design Works is experienced on the national scale and do a lot of work in neighborhood communities like Livonia.

There was a focus on this project being economically realistic and feasible to the marketplace.

Very throughout scope of work, focused on discovery and focal points of our community and identity. They help set the realistic tone for this project and have worked with other cities in Michigan.

HED will begin working on rendering and plan to bring multiple plans to the City Council in April of 2025. There will be input from the community and Council at multiple points.

Multiple firms bid on the Master Planning services contract; the Administration is recommending the contract be awarded to HED for \$345,000.

HED was also selected by the panel for architectural and engineering services for the design of City Hall. Multiple firms publicly bid on architectural and engineering services work.

This would specifically be for the City Hall.

HED would analyze the Space needs Assessment conducted by PMR over the last few years to design the City Hall. HED has multiple divisions and bandwidth to do both the master planning work for the Campus and architectural and engineering for City Hall.

Council talked about this project price being under control and not being too expensive. Keeping this building under a controlled budget is very important, and this building isn't just an office building, but the people's house, and having a Council Chambers for the Council to meet residents and provide a space for the residents to have their voices heard.

HED architectural is very creative and listen to what our city wants. They recently worked with Redford Township to design some new municipal buildings.

HED should be bringing Council a rendering in summer to fall of 2025, hopefully breaking ground in late 2025 or early 2026.

The funds for these above contracts would come for the 418 fund, Building Improvement Fund.

Bond dollars would cover these professional service expenditures, and the 418 Fund would be reimbursed.

The Bond proposal will come back to the Council in summer of 2025.

All these bids and documents are included in the packet and available to the public. Council explained to the Administration and Mayor it's important to continue to have committee meetings keeping the City Council updated on the status of the Civic Center Campus project.

Councilman Jim Jolly recommended four Council approvals.

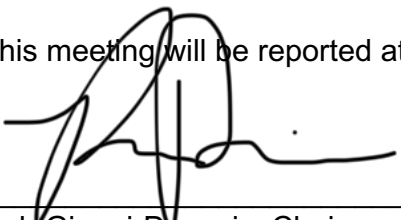
The meeting adjourned at 8:27 pm.

The Committee recommends:

1. For the Law Department to draft the following resolutions for the Civic Center Campus:
 - a. Survey services
 - b. Master Planning services
 - c. Civil Engineering services
 - d. City Hall Architectural services

Note: This item will remain in Committee.

This meeting will be reported at the Regular Meeting of November 6, 2024.



Rob Gjonaj-Donovic, Chair



LETTER TO THE LIVONIA CITY COUNCIL

1.

Council Office
October 7, 2024

MEETING DATE

COI101424/R110624

PRESENTED BY

AGENDA ITEM

The subject matter of the planning, design and construction of the new Civic Center Campus. (CR 330-24)

BACKGROUND DETAILS

At the Regular Meeting of October 7, 2024:

RESOLVED, that upon the motion by Councilmember Rob Donovic, seconded by Council Vice President Martha Ptashnik, at the Regular Meeting held October 7, 2024, the Council does hereby refer the subject matter of the planning, design and construction of the new Civic Center campus to the Capital Outlay and Infrastructure Committee for its report and recommendation.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

To discuss the subject matter as presented.

ATTACHMENTS

1. COI101424 Email RE_ Award Recommendation Letters and Proposal Summaries
2. COI101424 LCC_City Hall_AE_Contract Award Recommendation Letter_AE- Updated
3. COI101424 LCC_Contract Award Recommendation Letter_CE-Updated
4. COI101424 LCC_Contract Award Recommendation Letter_MP- Updated
5. COI101424 LCC_Survey_Contract Award Recommendation Letter- Updated
6. COI101424 LCC_Traffic Study_Contract Award Recommendation Letter- Updated

APPROVED BY

From: [Lichtenberg, Debra](#)
To: [Kasprowicz, Sara](#)
Cc: [Doug.Smith](#); [Andy.Fountain](#); [Paul Theriault](#); [Rick.Erickson](#); [Taormina, Mark](#); [Kandah, Gus](#); [Fisher, Carter](#); [Varga, Dave](#); [Ava Wisniewski](#)
Subject: RE: Award Recommendation Letters and Proposal Summaries
Date: Monday, October 14, 2024 12:12:06 PM
Attachments: [LCC Contract Award Recommendation Letter MP- Updated.pdf](#)
[LCC Contract Award Recommendation Letter CE-Updated.pdf](#)
[LCC City Hall AE Contract Award Recommendation Letter AE- Updated.pdf](#)
[LCC Survey Contract Award Recommendation Letter- Updated.pdf](#)
[LCC Traffic Study Contract Award Recommendation Letter- Updated.pdf](#)
[image001.png](#)

Sara,

CORRECT VERSIONS ATTACHED.

Attached please find the updated information relevant to the Capital Outlay and Infrastructure Committee Meeting to be held this evening. Please distribute and post the information accordingly.

Thank you!
Debbie

Debra Peck Lichtenberg, CPA
Finance Director
City of Livonia | Finance Department
(734) 466-2260
dlichtenberg@livonia.gov

Debra Peck Lichtenberg, CPA
Finance Director
City of Livonia | Finance Department
(734) 466-2260
dlichtenberg@livonia.gov

From: Ava Wisniewski <Ava.Wisniewski@plantemoran.com>
Subject: Award Recommendation Letters and Proposal Summaries

Good afternoon Livonia City Center team,

Plante Moran Realpoint is pleased to present the award recommendation letters for five services related to the new City Center Program.

1. Master Planning Services- HED
2. Civil Engineering Services- OHM

3. Architect Engineer Services of City Hall- HED
4. Traffic Study Services- Spalding DeDecker
5. Surveying Services- Spalding DeDecker

Please see the attached documents related to these recommendations. We will be there to present these at the Capital Outlay Committee meeting on Monday, October 14.

If there are any questions in the meantime please let us know. Thank you for your time over the last few weeks during this process.

Best,
Ava

Ava Wisniewski | Consultant

Plante Moran Realpoint, 3000 Town Center, Suite 100, Southfield, MI 48075

Direct Dial: 248.223.3998 | Mobile: 313.520.1364

[Plante Moran Realpoint](#) | [Twitter](#) | [Facebook](#) | [LinkedIn](#) | [Subscribe](#)

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October 14, 2024

Ms. Maureen Miller Brosnan
Mayor
City of Livonia
3300 Civic Center Dr., Livonia, MI 48154

RE: Livonia City Center – New City Hall Facility
Architectural/Engineering Services Contract Award Recommendation

Dear Ms. Miller Brosnan:

Please find in this letter an update from Plante Moran Realpoint (PMR) regarding our assignment to assist and advise the City of Livonia (COL) in selecting a professional architectural/engineering (A/E) firm for the new City Hall facility. This update represents the mutual efforts of PMR, COL administration, staff, and legal counsel (the Project Team) to identify, evaluate, and recommend a firm for the new City Hall facility.

The Architectural Engineering Services for City Hall Scope of Work is critical to designing the new facility. It is also paramount to begin this process quickly in order to meet the program's overall timeline and budget.

SELECTION PROCESS

In August and early September, the Project Team drafted a Scope of Work and request for proposals (RFP). This Scope of Work was also reviewed on several occasions in detail by the project team. PMR also reached out to roughly a dozen architectural/ engineering firms to garner interest in the RFP.

On September 9, 2024, the COL formally posted the RFP documents to MITN. The Project Team conducted a pre-proposal meeting on September 16, 2024, which twenty-five (25) firms participated in. After receiving proposals from twelve (12) firms on September 30, 2024, the Project Team evaluated them over the ensuing days.

The Project Team utilized a criteria-based selection (CBS) process to evaluate each A/E firm's Proposal. The CBS process used pre-established and weighted criteria to evaluate the proposals to objectively shortlist four (4) A/E firms for interviews. Selection criteria included relevant project

experience, proposed staff and team experience, past experience with the COL, available manpower, proposed fee, and firm approach to the project.

The Project Team conducted interviews with the shortlisted firms on October 8, 2024. The selection committee consisted of staff from PMR as well as Mayor Maureen Miller Brosnan, Dave Varga, Debra Lichtenberg, Mark Taormina, Jeannine Laible, and Brandon McCullough along with other City staff. Upon completion of the interviews and after subsequent discussion, the Project Team completed the CBS scoring process.

This recommendation is based on the fact that the firm achieved the highest CBS score for the proposed Project. This score was achieved due to their firm experience, team experience, the firm's approach to completing the project on schedule and within budget, and strong presentation/interview.

RECOMMENDATION

The Project Team recommends awarding the A/E services contract for the new City Hall Facility to HED (Harley Ellis Devereaux), pending final review of terms by legal counsel.

The total contract award recommendation is \$1,516,550 and is further defined as follows:

\$1,510,550	Fixed Lump-Sum Fee (approximately 6.43%)
\$ 6,000	Not-to-Exceed Reimbursables
\$1,516,550	Total Contract Award Recommendation

The A/E fee will be a fixed lump-sum amount based upon the scope, budget, and timeline established in the RFP. The reimbursables are a not-to-exceed amount and will be billed as incurred.

If you have any questions regarding the above information, please feel free to contact me at (248) 227-4691 or rick.erickson@plantemoran.com. The Project Team is also available at the COL's convenience to answer any questions.

Sincerely,

Rick Erickson, AIA
Plante Moran Realpoint

CC: Dave Varga, City of Livonia
Mark Taormina, City of Livonia
Debbie Lichtenberg, City of Livonia

Paul Theriault, Plante Moran Realpoint
Andy Fountain, Plante Moran Realpoint

ENCLOSURES: A/E Proposal/CBS Scoring Summary

October 14, 2024

Ms. Maureen Miller Brosnan
Mayor
City of Livonia
3300 Civic Center Dr., Livonia, MI 48154

RE: Livonia City Center
Civil Engineering Services Contract Award Recommendation

Dear Ms. Miller Brosnan:

Please find in this letter an update from Plante Moran Realpoint (PMR) regarding our assignment to assist and advise the City of Livonia (COL) in selecting a firm to perform civil engineering (CE) services for the Livonia City Center Program. This update represents the mutual efforts of PMR, COL administration, staff, and legal counsel (the Project Team) to identify, evaluate, and recommend a firm for the City Center Program.

The Civil Engineering Services Scope of Work is critical to taking the Master Planner's vision from drawing board to reality. It is also paramount to begin this process quickly in order to meet the program's overall timeline and budget.

SELECTION PROCESS

In August and early September, the Project Team drafted a Scope of Work and request for proposals (RFP). This Scope of Work was also reviewed on several occasions in detail by the project team. PMR also reached out to roughly a dozen civil engineering firms to garner interest in the RFP.

On September 9, 2024, the COL formally posted the request for proposal (RFP) documents to MITN. The Project Team conducted a pre-proposal meeting on September 16, 2024, which fourteen (14) firms participated in. After receiving proposals from eight (8) firms on September 30, 2024, the Project Team evaluated them over the ensuing days.

The Project Team utilized a criteria-based selection (CBS) process to evaluate each CE firm's proposal. The CBS process used pre-established and weighted criteria to evaluate the proposals to objectively shortlist two (2) firms for interviews. Selection criteria included relevant project

experience, proposed staff and team experience, local presence and experience, available manpower, proposed fee, and firm approach to the project.

The Project Team conducted interviews with the shortlisted firms on October 9, 2024. The selection committee consisted of staff from PMR as well as Mayor Maureen Miller Brosnan, Dave Varga, Debra Lichtenberg, Mark Taormina, David Lear, Jeannine Laible, and Rob Donovic along with other City staff. completion of the interviews and after subsequent discussion, the Project Team completed the CBS scoring process.

This recommendation is based on the fact that the firm achieved the highest CBS score for the proposed Project. This score was achieved due to their firm experience, the team's experience working together, the firm's competitive proposed fee, and strong presentation/ interview.

RECOMMENDATION

The Project Team recommends awarding the CE services contract for the Livonia City Center Program to OHM (Orchard, Hiltz & McCliment, Inc.), pending final review of terms by legal counsel.

The total contract award recommendation is 6.5% of the Cost of Work. The CE fee will be converted to a fixed lump-sum amount based upon the scope, budget, and timeline established in an amendment to the contract at a later date. The reimbursables are a not-to-exceed amount and will be billed as incurred.

If you have any questions regarding the above information, please feel free to contact me at (248) 603-5356 or doug.smith@plantemoran.com. The Project Team is also available at the COL's convenience to answer any questions.

Sincerely,

Doug Smith
Plante Moran Realpoint

CC: Dave Varga, City of Livonia
Mark Taormina, City of Livonia
Debbie Lichtenberg, City of Livonia
Gus Kandah, City of Livonia
Paul Theriault, Plante Moran Realpoint
Andy Fountain, Plante Moran Realpoint

ENCLOSURES: CE Proposal/ CBS Scoring Summary

October 14, 2024

Ms. Maureen Miller Brosnan
Mayor
City of Livonia
3300 Civic Center Dr., Livonia, MI 48154

RE: Livonia City Center
Master Planning Services Contract Award Recommendation

Dear Ms. Miller Brosnan:

Please find in this letter an update from Plante Moran Realpoint (PMR) regarding our assignment to assist and advise the City of Livonia (COL) in selecting a firm to perform master planning (MP) services for the Livonia City Center Program. This update represents the mutual efforts of PMR, COL administration, staff, and legal counsel (the Project Team) to identify, evaluate, and recommend a firm for the City Center Program.

The Master Planning Services Scope of Work is critical to bringing the City's vision for the City Center to life. It is also paramount to begin this process quickly in order to meet the program's overall timeline and budget.

SELECTION PROCESS

In August and early September, the Project Team drafted a Scope of Work and request for proposals (RFP). This Scope of Work was also reviewed on several occasions in detail by the project team. PMR also reached out to roughly a dozen master planning firms to garner interest in the RFP.

On September 9, 2024, the COL formally posted the request for proposal (RFP) documents to MITN. The Project Team conducted a pre-proposal meeting on September 16, 2024; which fourteen (14) firms participated in. After receiving proposals from eight (8) firms on September 30, 2024, the Project Team evaluated them over the ensuing days.

The Project Team utilized a criteria-based selection (CBS) process to evaluate each MP firm's proposal. The CBS process used pre-established and weighted criteria to evaluate the proposals to objectively shortlist four (4) firms for interviews. Selection criteria included relevant project

experience, proposed staff and team experience, local presence and experience, available manpower, proposed fee, and firm approach to the project.

The Project Team conducted interviews with the shortlisted firms on October 9, 2024. The selection committee consisted of staff from PMR as well as Mayor Maureen Miller Brosnan, Dave Varga, Debra Lichtenberg, Mark Taormina, David Lear, Jeannine Laible, and Rob Donovic along with other City staff. Upon completion of the interviews and after subsequent discussion, the Project Team completed the CBS scoring process.

This recommendation is based on the fact that the firm achieved the highest CBS score for the proposed Project. This score was achieved due to their firm experience, the team's experience working together, the firm's approach to completing the project on schedule and within budget, and strong presentation/ interview.

RECOMMENDATION

The Project Team recommends awarding the MP services contract for the Livonia City Center Program to HED (Harley Ellis Devereaux), pending final review of terms by legal counsel.

The total contract award recommendation is \$322,500.00 and is further defined as follows:

\$ 345,000.00	Fixed Lump-Sum Fee
- \$25,000	Credit to proposed fee (awarded both MP and AE for City Hall)
\$ 2,500.00	Not-to-Exceed Reimbursables
\$ 322,500.00	Total Contract Award Recommendation

The MP fee will be a fixed lump-sum amount based upon the scope, budget, and timeline established in the RFP. The reimbursables are a not-to-exceed amount and will be billed as incurred.

If you have any questions regarding the above information, please feel free to contact me at (248) 603-5356 or doug.smith@plantemoran.com. The Project Team is also available at the COL's convenience to answer any questions.

Sincerely,

Doug Smith
Plante Moran Realpoint

CC: Dave Varga, City of Livonia
Mark Taormina, City of Livonia

Debbie Lichtenberg, City of Livonia

Gus Kandah, City of Livonia

Paul Theriault, Plante Moran Realpoint

Andy Fountain, Plante Moran Realpoint

ENCLOSURES: MP Proposal/ CBS Scoring Summary

October 14, 2024

Ms. Maureen Miller Brosnan
Mayor, City of Livonia
3300 Civic Center Dr.
Livonia, MI 48154

RE: Livonia City Center Program
Contract Award Recommendation - Survey Services

Dear Ms. Miller Brosnan:

Please find in this letter an update from Plante Moran Realpoint (PMR) regarding our assignment to assist and advise the City of Livonia (COL) in selecting a professional surveying firm for the Livonia City Center Program. This update represents the mutual efforts of PMR, COL administration, staff, and legal counsel (the Project Team) to identify, evaluate, and recommend a firm for the Livonia City Center Program.

The Surveying Scope of Work is an important one in helping the Project Team understand the boundaries of the property, any easements or restrictions contained within, the location and condition of site utilities as well as the site topography.

SELECTION PROCESS

In early September, the Project Team drafted a Scope of Work and request for proposals (RFP). This Scope of Work was also reviewed in detail by David Lear and Todd Zilincik with the City, who had great insights into some of the historical conditions on site. PMR also reached out to all four (4) civil engineering firms, which are pre-qualified by the City, to garner interest in the RFP.

On September 18, 2024, the Project Team issued an RFP to the City of Livonia's four (4) pre-qualified civil engineering firms. After clarifying a few questions and issuing responses, three of the four firms submitted proposals on September 27, 2024, and the Project Team evaluated them over the ensuing days.

As the firms were pre-qualified, the Project Team did not utilize a criteria-based selection (CBS) process but did review the proposals for completeness of scope, fees/costs and acceptance of contract terms/conditions.

RECOMMENDATION

For this Project the selection team included staff from PMR as well as Dave Varga, Mark Taormina, David Lear, Todd Zilincik as well as other City staff. The Project Team recommends awarding the surveying services contract for the Livonia City Center Program to Spalding DeDecker, pending final review of terms by legal counsel.

The total contract award recommendation is \$67,750.00 and is further defined as follows:

\$ 67,750	Fixed Lump-Sum Fee
\$ 0	Not-to-Exceed Reimbursables
\$ 67,750	Total Contract Award Recommendation

This recommendation is due to the fact that Spalding DeDecker is pre-qualified by the City, had a very competitive fee, which was within budget, is one of the largest surveying firms in the state, can meet the proposed schedule and that they have previously surveyed several areas of the Civic Center property.

The surveying work is anticipated to be completed by the end of the calendar year, if not sooner.

If you have any questions regarding the above information, please feel free to contact me at (248) 223-3380 or paul.theriault@plantemoran.com. The Project Team is also available at the COL's convenience to answer any questions.

Sincerely,

Paul Theriault, PE LEED AP
Plante Moran Realpoint

CC: Dave Varga, City of Livonia
Mark Taormina, City of Livonia
Debbie Lichtenberg, City of Livonia
Gus Kandah, City of Livonia
Andy Fountain, Plante Moran Realpoint

ENCLOSURES: Proposal Summary

October 14, 2024

Ms. Maureen Miller Brosnan
Mayor, City of Livonia
3300 Civic Center Dr.
Livonia, MI 48154

RE: Livonia City Center Program
Contract Award Recommendation – Traffic Study Services

Dear Ms. Miller Brosnan:

Please find in this letter an update from Plante Moran Realpoint (PMR) regarding our assignment to assist and advise the City of Livonia (COL) in selecting a professional traffic study firm for the Livonia City Center Program. This update represents the mutual efforts of PMR, COL administration, staff, and legal counsel (the Project Team) to identify, evaluate, and recommend a firm for the Livonia City Center Program.

The Traffic Study Scope of Work is another important piece of information that is essential to the Project Team to understand any existing traffic flow issues in and around the Civic Center site and to assist in the Master Planning and Civil Engineering. This study will extend up to 1 mile in each direction from the corner of 5 Mile and Farmington Roads.

SELECTION PROCESS

In early September, the Project Team drafted a Scope of Work and request for proposals (RFP). This Scope of Work was also reviewed in detail by David Lear and Todd Zilincik with the City, who had good perspective on how far to extend the limits of the study. PMR also reached out to all four (4) civil engineering firms, which are pre-qualified by the City, to garner interest in the RFP.

On September 18, 2024, the Project Team issued an RFP to the City of Livonia's four (4) pre-qualified civil engineering firms. After clarifying a few questions and issuing responses, two of the four firms submitted proposals on September 27, 2024, and the Project Team evaluated them over the ensuing days.

As the firms were pre-qualified, the Project Team did not utilize a criteria-based selection (CBS) process but did review the proposals for completeness of scope, fees/costs and acceptance of contract terms/conditions.

RECOMMENDATION

For this Project the selection team included staff from PMR as well as Dave Varga, Mark Taormina, David Lear, Todd Zilincik as well as other City staff. The Project Team recommends awarding the traffic study services contract for the Livonia City Center Program to Spalding DeDecker, pending final review of terms by legal counsel.

The total contract award recommendation is \$17,700.00 and is further defined as follows:

\$ 17,700	Fixed Lump-Sum Fee
\$ 0	Not-to-Exceed Reimbursables
\$ 17,700	Total Contract Award Recommendation

This recommendation is due to the fact that Spalding DeDecker is pre-qualified by the City, had a very competitive fee, which was within budget, and can meet the proposed schedule.

The traffic study work is anticipated to be completed by the end of the calendar year, if not sooner.

If you have any questions regarding the above information, please feel free to contact me at (248) 223-3380 or paul.theriault@plantemoran.com. The Project Team is also available at the COL's convenience to answer any questions.

Sincerely,

Paul Theriault, PE LEED AP
Plante Moran Realpoint

CC: Dave Varga, City of Livonia
Mark Taormina, City of Livonia
Debbie Lichtenberg, City of Livonia
Gus Kandah, City of Livonia

Andy Fountain, Plante Moran Realpoint

ENCLOSURES: Proposal Summary

Regular Meeting Minutes of October 7, 2024

On a motion by Councilmember Jolly, supported by Vice President Ptashnik and unanimously adopted, it was:

#330-24 RESOLVED, that upon the motion by Councilmember Rob Donovic, seconded by Council Vice President Martha Ptashnik, at the Regular Meeting held October 7, 2024, the Council does hereby refer the subject matter of the planning, design, and construction of the New Civic Center Campus to the Capital Outlay and Infrastructure Committee for its report and recommendation.

<i>RESOLUTION REQUESTED BY COUNCIL (Regular Meeting of October 7, 2024)</i>

Motion:	Jolly
Second:	Ptashnik
Present:	Ptashnik, Donovic, Budzinski, Morgan, Jolly, and McCullough
Absent:	Toy



LETTER TO THE LIVONIA CITY COUNCIL

20.

Law
July 10, 2025

MEETING DATE

R072125

PRESENTED BY

Carter Fisher, City Attorney

AGENDA ITEM

PROPOSED AMENDMENT TO THE LIVONIA CODE OF ORDINANCES, AS AMENDED: Department of Law, re: to amend Section 040 and Add Sections 540, 550, 560 of Title 6 (Animals), Chapter 01 in order to regulate the keeping of racing pigeons.

BACKGROUND DETAILS

At the Study Meeting of June 16, 2025, a motion was made by Councilmember Lynda L. Scheel for the Law Department to formulate language limiting the number of pigeons owned to be no more than 20.

In the event the Law Department has compiled the appropriate language, this item will be ready for a First Reading.

For the Study Meeting of July 16, 2026:

Petitioner Freya Jacoby would like to request a proposed Ordinance to regulate the number of racing pigeons allowed to be used in a N2 residential neighborhood.

The Clerk's Office received the following email on June 6, 2025.

To the Council of the City of Livonia,

I am proposing an ordinance be put into action in Livonia, Michigan to regulate the number of racing pigeons allowed to be housed in a N2 residential neighborhood. Many communities in Michigan have done so already.

I have attached a copy of the 1974 Michigan Law allowing such regulation by municipalities.

I have also attached a copy of the permit acquired by the Wayne County Health Department setting forth the rules which must be followed by the pigeon owner. Please note on page 2 item 8c, which states "Owners of carrier or racing pigeons shall not house, harbor or keep more carrier or racing pigeons than permitted." A number must be set.

I propose that no more than 20 pigeons be allowed on any one residential parcel. My concerns are that any more than that would constitute a "pigeon farm". Which not only introduces possible health and safety issues but it would most definitely impair the value of my property.

Thank you,
Freya J Jacoby

Concerned Livonia Resident

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

First Reading pending an ordinance created by the Law Department

ATTACHMENTS

1. Amend Sect 040, Add 540,550,560 to Title 6 (Animals)
2. R070725 LTC Prop Ord - pigeon limitation (Law to prep for 1st Read)
3. S061625 Prop Ord Pigeon Regulation Minutes
4. S061625 LTC Prop Ord - Freya Jacoby
5. Freya Jacoby, Letter from Wayne County Health 20325 Parker
6. Freya Jacoby, mcl-Act-57-of-1974
7. S061625, Proposed Ordinance-Pigeons, Freya Jacoby

APPROVED BY



Carter Fisher, City Attorney

Date: July 21, 2025



Maureen Miller Brosnan, Mayor

Date: July 21, 2025



LETTER TO THE LIVONIA CITY COUNCIL

16.

Clerk
June 16, 2025

MEETING DATE

R070725

PRESENTED BY

AGENDA ITEM

PROPOSED AMENDMENT TO THE LIVONIA CODE OF ORDINANCES, AS AMENDED: Department of Law, re: in order to regulate the number of racing pigeons allowed to be housed in a N2 (Neighborhood District).

BACKGROUND DETAILS

At the Study Meeting of June 16, 2025, a motion was made by Councilmember Lynda L. Scheel for the Law Department to formulate language limiting the number of pigeons owned to be no more than 20.

In the event the Law Department has compiled the appropriate language, this item will be ready for a First Reading.

For the Study Meeting of July 16, 2026:

Petitioner Freya Jacoby would like to request a proposed Ordinance to regulate the number of racing pigeons allowed to be used in a N2 residential neighborhood.

The Clerk's Office received the following email on June 6, 2025.

To the Council of the City of Livonia,

I am proposing an ordinance be put into action in Livonia, Michigan to regulate the number of racing pigeons allowed to be housed in a N2 residential neighborhood. Many communities in Michigan have done so already.

I have attached a copy of the 1974 Michigan Law allowing such regulation by municipalities.

I have also attached a copy of the permit acquired by the Wayne County Health Department setting forth the rules which must be followed by the pigeon owner. Please note on page 2 item 8c, which states "Owners of carrier or racing pigeons shall not house, harbor or keep more carrier or racing pigeons than permitted." A number must be set.

I propose that no more than 20 pigeons be allowed on any one residential parcel. My concerns are that any more than that would constitute a "pigeon farm". Which not only introduces possible health and safety issues but it would most definitely impair the value of my property.

Thank you,
Freya J Jacoby

Concerned Livonia Resident

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

First Reading pending an ordinance created by the Law Department

ATTACHMENTS

1. R070725 LTC Prop Ord - pigeon limitation
2. S061625 LTC Prop Ord - Freya Jacoby
3. Freya Jacoby, Letter from Wayne County Health 20325 Parker
4. Freya Jacoby, mcl-Act-57-of-1974
5. S061625, Proposed Ordinance-Pigeons,Freya Jacoby

APPROVED BY

**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD JUNE 16, 2025**

Meeting was called to order at 9:00 p.m. by Council President McCullough. Present: Scott Morgan, Laura Toy, Rob Donovic, Vice President Ptashnik, Carrie Budzinski, Lynda Scheel, and President McCullough. Absent: None.

Elected and appointed officials present: Eric Goldstein, Assistant City Attorney; Lori L. Miller, City Clerk; Mark Taormina, City Planner and Economic Development Director; Dave Lear, Assistant City Engineer.

Councilmember Morgan led the meeting with the Pledge of Allegiance.

16. REQUEST FOR CONSIDERATION OF A PROPOSED ORDINANCE: Freya J. Jacoby, re: in order to regulate the number of racing pigeons allowed to be housed in a N2 (Neighborhood District).

Freya Jacoby, Livonia resident, presented her request to Council to have City Council adopt an ordinance to limit the number of racing pigeons allowed in neighborhoods and subdivisions zoned N2. Ms. Jacoby explained that the State of Michigan allows this hobby but involves a lot of money, illegal gambling, but is more of a nuisance rather than a hobby. Local communities are allowed to regulate the processes, and Wayne County dictates the rules regarding how many pigeons are allowed in pigeon coups/lofts. Her neighbor plans to start off his pigeon loft with approximately 80 pigeons and she would like the Ordinance to spell out a limit, such as 20, for the total amount of pigeons allowed.

Councilmember Scheel inquired about the size of the loft built by her neighbor. Ms. Jacoby stated the loft was built on stilts, size was 14' x 20' and felt it would eliminate the need for a rat-wall if up on stilts, but did not. Ms. Jacoby stated her neighbor did receive a City Building permit for this structure.

Motion was made by Councilmember Donovic to have the Law Department draft an Ordinance to regulate racing pigeons.

Following discussion by Council with the resident, Councilmember Scheel made the motion to have the Law Department prepare a draft Ordinance to limit the number of racing pigeons to no more than 20, specifically, as requested by Ms. Jacoby to enable them to vote at the next meeting.

Based on the motion made by Councilmember Scheel, this matter will be placed on the Regular portion of the next Regular Agenda to include the limit of 20 pigeons in the Ordinance.

DIRECTION:

PREPARE ORDINANCE

REGULAR



LETTER TO THE LIVONIA CITY COUNCIL

16.

Clerk
June 6, 2025

MEETING DATE

S061625/R070725

PRESENTED BY

AGENDA ITEM

REQUEST FOR CONSIDERATION OF A PROPOSED ORDINANCE: Freya J. Jacoby, re: in order to regulate the number of racing pigeons allowed to be housed in a N2 (Neighborhood District).

BACKGROUND DETAILS

Petitioner Freya Jacoby would like to request a proposed Ordinance to regulate the number of racing pigeons allowed to be used in a N2 residential neighborhood.

The Clerk's Office received the following email on June 6, 2025.

To the Council of the City of Livonia,

I am proposing an ordinance be put into action in Livonia, Michigan to regulate the number of racing pigeons allowed to be housed in a N2 residential neighborhood. Many communities in Michigan have done so already.

I have attached a copy of the 1974 Michigan Law allowing such regulation by municipalities.

I have also attached a copy of the permit acquired by the Wayne County Health Department setting forth the rules which must be followed by the pigeon owner. Please note on page 2 item 8c, which states "Owners of carrier or racing pigeons shall not house, harbor or keep more carrier or racing pigeons than permitted." A number must be set.

I propose that no more than 20 pigeons be allowed on any one residential parcel. My concerns are that any more than that would constitute a "pigeon farm". Which not only introduces possible health and safety issues but it would most definitely impair the value of my property.

Thank you,
Freya J Jacoby
Concerned Livonia Resident

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

Approve as submitted.

ATTACHMENTS

1. S061625 LTC Prop Ord - Freya Jacoby
2. Freya Jacoby, Letter from Wayne County Health 20325 Parker
3. Freya Jacoby, mcl-Act-57-of-1974
4. S061625, Proposed Ordinance-Pigeons,Freya Jacoby

APPROVED BY

Date: June 06, 2025

Doris DeMarco, Deputy Clerk



Health, Human & Veterans Services

Division of Public Health

11/14/23

Sergiu Popa
20325 Parker St.
Livonia, MI 48152

RE: Construction of Carrier/Racing Pigeon Loft

Dear Mr. Popa,

The submitted plans and specifications have been reviewed and approved in accordance with Michigan Act 57 of 1974. The construction of the proposed carrier/racing pigeon loft has been approved with the following stipulations:

1. The construction of the loft must comply with the building code regulations of the city of Livonia. It is the owner's responsibility to obtain all necessary permits and approvals from the city of Livonia Building Department.
2. The proposed separation distance of 141.67 ft from the residential structure and 25 ft to the nearest property line is approved. The loft may not be located nearer than 20 feet to any residential structure on an adjoining lot or parcel.
2. A minimum of one square feet of loft floor per pigeon must be provided within the loft. Indicate on the Carrier/Racing Pigeon Permit Application the maximum number of birds to be housed in the proposed loft.
3. The loft shall be used for only the sport and hobby of racing carrier pigeons. It is not to be used for the business of breeding, raising, or harboring for commercial or marketing purposes.
4. The loft must be kept in good repair and maintained in a clean and orderly condition.
5. The accumulation of animal wastes cannot be stored or maintained in such a manner as to emit offensive odors or present the possibility of disease.
6. The loft must be maintained so that it does not create a source of food or harborage for insects, rodents, or other pests.



Health, Human & Veterans Services

7. Birds must be maintained in a healthy, disease-free condition. Suspicion or confirmed diagnosis of certain avian diseases must be reported to the Michigan Department of Agriculture and Rural Development.
8. Owners of carrier or racing pigeons shall:
 - a. exercise necessary measures to prevent their birds from perching or lingering on the buildings or property of others;
 - b. exercise necessary measures to prevent the generation of obnoxious or offensive odors and noise, or otherwise create a nuisance affecting the buildings or property of others;
 - c. not house, harbor or keep more carrier or racing pigeons than permitted;
 - d. not allow or permit birds to destroy or deface property.

Approval of these plans and authorization for construction shall expire 1 year from the date of approval.

When construction of the loft is completed and approved by the Livonia Building Department, submit a Carrier/Racing Pigeon Permit Application to this department with the Municipal Certification portion completed and signed. Before a permit can be issued, an inspection of the pigeon loft must take place to verify compliance with Michigan Act 57 of 1974.

In order to maintain a Carrier/Racing Pigeon permit, access to the loft must be granted to representatives of the Wayne County Department of Health, Human & Veterans Services, Environmental Health Section for the purpose of routine inspections, in response to complaints, and to verify compliance with the regulations in Act 57 of 1974 and the Wayne County Environmental Health Code of 2005.

Sincerely,

Theresa Brestovansky, REHS, MPH
Wayne County Department of Health, Human & Veterans Services
Public Health Division
Environmental Health

cc: Livonia Building Department

RACING AND CARRIER PIGEONS

Act 57 of 1974

AN ACT relating to the sport of racing and carrier pigeons; authorizing the flying of such pigeons; and providing for regulation thereof by cities, villages, townships, and counties.

History: 1974, Act 57, Imd. Eff. Apr. 1, 1974.

The People of the State of Michigan enact:

433.351 Definitions.

Sec. 1. As used in this act:

(1) "Carrier pigeon" means homing and racing pigeons which have the name of the owner stamped upon the wing or tail, or are banded upon the leg with the name or initials of the owner or with an identification or registration number stamped on the band.

(2) "Racing pigeon" means a pigeon registered with a national pigeon racing organization and used as a game competitive bird. The pigeons are not to be identified or classified as fowl when raised and used in the sport and hobby of racing carrier pigeons.

(3) "Department" means the health department of any city, village, township, or county and shall include the head of such department or any employee acting in his stead.

(4) "Loft" means any structure in which carrier pigeons are housed.

History: 1974, Act 57, Imd. Eff. Apr. 1, 1974.

433.352 Carrier pigeon permit; issuance; requirements.

Sec. 2. (1) The department shall issue a carrier pigeon permit to the owner of carrier pigeons who complies with the following requirements:

(a) The loft is found on inspection to be in compliance with regulations prescribed by the department and is maintained in a clean, orderly condition and kept in good repair.

(b) The construction of a loft complies with the building code regulations of the city, village, township, or county in which it is erected.

(2) The requirements of zoning regulations relating to restrictions on the location of stables and poultry enclosures shall not apply to a loft for which a permit has been issued.

History: 1974, Act 57, Imd. Eff. Apr. 1, 1974.

433.353 Loft of carrier or racing pigeons; erection and maintenance.

Sec. 3. A person to whom the department has issued a carrier pigeon permit may erect and maintain a loft of carrier or racing pigeons in the city, village, township, or county.

History: 1974, Act 57, Imd. Eff. Apr. 1, 1974.

433.354 Authorization to fly pigeons for necessary exercise and training.

Sec. 4. An owner of carrier pigeons, to whom the department has issued a carrier pigeon permit, or person acting for him, shall be allowed to fly the pigeons for necessary exercise and training.

History: 1974, Act 57, Imd. Eff. Apr. 1, 1974.

433.355 Restricting training and conditioning programs.

Sec. 5. The owner is not required to restrict his training and conditioning program to obtain successful results in competition unless duly proven to be in violation of a local health or nuisance ordinance.

History: 1974, Act 57, Imd. Eff. Apr. 1, 1974.

From: fenright@wyan.org <fenright@wyan.org>

Sent: Friday, June 6, 2025 11:27 AM

To: Kasprowicz, Sara <skasprowicz@livonia.gov>

Subject: Proposed Ordinance for Regulation of Racing Pigeons in the City of Livonia

To the Council of the City of Livonia,

I am proposing an ordinance be put into action in Livonia, Michigan to regulate the number of racing pigeons allowed to be housed in a N2 residential neighborhood. Many communities in Michigan have done so already.

I have attached a copy of the 1974 Michigan Law allowing such regulation by municipalities.

I have also attached a copy of the permit acquired by the Wayne County Health Department setting forth the rules which must be followed by the pigeon owner. Please note on page 2 item 8c, which states "Owners of carrier or racing pigeons shall not house, harbor or keep more carrier or racing pigeons than permitted." A number must be set.

I propose that no more than 20 pigeons be allowed on any one residential parcel. My concerns are that any more than that would constitute a "pigeon farm". Which not only introduces possible health and safety issues but it would most definitely impair the value of my property.

Thank you,

Freya J Jacoby

Concerned Livonia Resident



LETTER TO THE LIVONIA CITY COUNCIL

21.

Law
July 8, 2025

MEETING DATE

R072125

PRESENTED BY

Carter Fisher, City Attorney

AGENDA ITEM

PROPOSED AMENDMENT TO THE LIVONIA CODE OF ORDINANCES, AS AMENDED: Department of Law, re: to Title 12, Chapter 18 (Naming of Public Places and Buildings), Section 020 to name the new senior facility as the Livonia Senior Wellness Center.

BACKGROUND DETAILS

At your Study meeting of July 7, 2025, you unanimously approved the naming of the new senior facility as the Livonia Senior Wellness Center.

Accordingly, the proposed Ordinance amendment reflecting this change is hereby submitted for your consideration and possible adoption.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

First Reading pending an ordinance created by the Law Department

ATTACHMENTS

1. S070725 LTC Naming Livonia Senior Wellness Center
2. 7.21 Livonia Senior Wellness Center - Ord redline

APPROVED BY

Handwritten signature of Carter Fisher in blue ink.

Carter Fisher, City Attorney

Date: July 08, 2025

Handwritten signature of Maureen Miller Brosnan in black ink.

Maureen Miller Brosnan, Mayor

Date: July 11, 2025



LETTER TO THE LIVONIA CITY COUNCIL

11.

Parks and Recreation
June 16, 2025

MEETING DATE

S070725/R072125

PRESENTED BY

Ted Davis, CPRP, Superintendent of Parks and Recreation

AGENDA ITEM

REQUEST TO CONSIDER THE PROPOSED NAME FOR THE NEW SENIOR FACILITY:
Department of Parks and Recreation re: the naming of the new senior facility as the Livonia Senior Wellness Center.

BACKGROUND DETAILS

The Parks and Recreation Commission respectfully requests your concurrence in the proposed naming of the new Senior Facility attached to the Jack E. Kirksey Recreation Center, the Livonia Senior Wellness Center.

The Parks and Recreation Commission discussed this topic at its June 4, 2025 meeting. The Commission recommends that the City Council name the senior facility, which we have commonly referred to, to show our community commitment to wellness and Livonia's aspiration to be one of the healthiest cities in the country.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

To name the new senior facility, the Livonia Senior Wellness Center.

ATTACHMENTS

None

APPROVED BY

Date: June 16, 2025

Ted Davis, CPRP, Superintendent of Parks and Recreation

Date: June 20, 2025

Carter Fisher, City Attorney

Maureen Miller Brosnan

Date: June 20, 2025

Maureen Miller Brosnan, Mayor

**AN ORDINANCE AMENDING SECTION 020 OF TITLE
12, CHAPTER 18 (NAMING OF PUBLIC PLACES AND
BUILDINGS) OF THE LIVONIA CODE OF
ORDINANCES, AS AMENDED.**

THE CITY OF LIVONIA ORDAINS:

Section 1. Section 020 of Title 12, Chapter 18 of the Livonia Code of Ordinances, as amended, is hereby amended to read as follows:

12.18.020 Public places and buildings -- Names for specific areas or buildings. The parcels of land or buildings hereinafter referred to, each of which is owned by the City and used for public purposes, shall hereinafter be known and referred to by the names respectively established therefore in the succeeding subsections of this section:

1. The land owned by the City in that part of the Northwest 1/4 of Section 22, T. 1 S., R. 9 E., City of Livonia, Wayne County, Michigan, described as beginning at a point distant East along the North line of said Section 22, 800 feet and South 310 feet from the N.W. 1/4 corner of Section 22, proceeding thence East 200 feet; thence South 280 feet; thence West 200 feet; thence North 280 feet to the point of beginning, shall be known and referred to as the "Livonia City Hall - Edward H. McNamara Building."

2. The land owned by the City in that part of the Northwest 1/4 of Section 22, T. 1 S., R. 9 E., City of Livonia, Wayne County, Michigan, described as beginning at a point distant East along the North line of said Section 22, 1,355 feet and South 230 feet from the N.W. 1/4 of Section 22, proceeding thence East 250 feet; thence South 240 feet; thence West 250 feet; thence North 240 feet to the point of beginning, shall be known and referred to as the " Robert and Janet Bennett Library."

3. The land owned by the City in that part of the Northwest 1/4 of Section 22, T. 1 S., R. 9 E., City of Livonia, Wayne County, Michigan, described as beginning at a point distant S. 01°25' W. along the West line of said Section 22, 831.22 feet and S. 88°35'30" East along the Southerly line of Civic Center Drive (66 feet wide), as extended, 290 feet to the point of beginning; proceeding thence S. 01°24'30" West, 650 feet; thence South 88°35'30" East, 400 feet; thence North 01°24'30" East, 650

feet; thence North 88°35'30" West, 400 feet to the point of beginning, shall be known and referred to as the "Robert Turner Police Headquarters Building."

4. The land owned by the City in that part of the Northeast 1/4 of Section 21, T. 1 S., R. 9 E., City of Livonia, Wayne County, Michigan, described as beginning North 89°44' West, 363 feet from the East 1/4 corner of Section 21; thence North 89°44' West, 960.30 feet; thence North 677.73 feet; thence South 89°38'48" East, 685 feet; thence South 01°23' West 342.93 feet; thence South 89°38'48" East, 280 feet; thence South 333.30 feet to the point of beginning except that part described as beginning North 89°44' West, 881 feet from the East 1/4 corner of Section 21; thence North 33 feet; thence North 89°44' West, 60 feet; thence North 00°39'33" East, 8.79 feet; thence North 44° right RAD 80 feet arc 125.66 feet; thence North 45°39'33" East, 194.43 feet; thence South 89°20'27" East, 147.86 feet; thence South 44°20'27" East, 248.51 feet; thence South 14°20'27" East, 85.81 feet; thence South 44°20'27" East, 214.39 feet; thence South 00°39'33" West, 105.90 feet; thence North 89°44' West, 60 feet; thence South 33 feet; thence North 89°44' West, 258.98 feet to the point of beginning 7.71 AC

and

The land owned by the City in that part of the Northeast 1/4 of Section 21, T. 1 S., R. 9 E., City of Livonia, Wayne County, Michigan, described as beginning North 89°44' West, 881 feet from the East 1/4 corner of Section 21; thence North 00°39'33" East, 67.43 feet; thence North 44°20'27" West, 384.43 feet; thence on a curve to right RAD 20 feet arc 31.42 feet; thence North 45°39'33" East, 169.57 feet; thence South 89°20'27" East, 98.14 feet; thence South 44°20'27" East, 19.53 feet; thence South 14°20'27" East, 90 feet; thence South 44°20'27" East, 213.65 feet; thence South 00°39'33" West, 258.98 feet to the point of beginning 3.09 AC, and shall be known and referred to as the "Silver Village."

5. The land owned by the City in that part of Lot 496 except the North 100 feet, the South 100 feet, the West 100 feet and the East 100 feet thereof of Supervisor's Livonia Plat No. 8 as recorded in Liber 66, Page 59 of Wayne County Records, said plat being part of the North 1/2 of the Southeast 1/4 of Section 2, T. 1 S., R. 9 E., Livonia Township (now City of Livonia), Wayne County, Michigan

and

The land owned by the City in that part of the Southeast 1/4 of Section 2, T. 1 S., R. 9 E., Livonia Township (now City of Livonia), Wayne County, Michigan, described as beginning at a point distant South 01°58'52" East, 1,416 feet and North 87°43'30" East, 448 feet from the center 1/4 corner of Section 2; thence North 87°43'30" East, 110 feet; thence South 02°10'35" East, 180 feet; thence

South 87°43'30" West, 110 feet; thence North 01°58'52" West, 180 feet to the point of beginning, shall be known and referred to as the "McNamara Towers Site."

6. The land owned by the City in that part of the Southeast 1/4 of Section 30, T. 1 S., R. 9 E., City of Livonia, County of Wayne, Michigan, described as beginning at a point on the East line of said Section distant North 00°04'20" East, 1,098.14 feet from the intersection of said East line and the center line of Plymouth Road and proceeding thence due West, 1,153.85 feet; thence North 00°05' East, 377.54 feet; thence due East, 1,153.79 feet of the East line of Section 30; thence South 00°04'20" West along said East line 377.54 feet to the point of beginning 10.00 acres (Sidwell No. 120-99-0002-000), shall be known and referred to as "Newburgh Village."

7. The land owned by the City in that part of Lots 1723, 1724, 1729, 1730 and also adjacent vacated street to said lots of Rosedale Gardens Subdivision No. 9 as recorded in Liber 77, page 41, Wayne County Records, said subdivision being a part of the N.W. 1/4 of Section 34, T. 1 S., R. 9 E., City of Livonia, Wayne County, Michigan (Sidwell No. 134-03-1640-000), shall be known and referred to as "Noble Library."

8. The land owned by the City in that part of the Southeast 1/4 of Section 2, T. 1 S., R. 9 E., City of Livonia, Wayne County, Michigan, described as beginning at a point on the South Section line distant North 89°52'30" West, 1,876 feet and North 120 feet from the S.E. corner of Section 2 and proceeding thence North 80 feet; thence West, 120 feet; thence South 80 feet; thence East, 120 feet to the point of beginning (Sidwell No. 008-99-0009-000), shall be known and referred to as "Sandburg Library."

9. The land owned by the City in that part of the Northeast 1/4 of Section 22, T.1 S., R. 9 E., City of Livonia, Wayne County, Michigan, described as Lots 27 thru 52 inclusive except the N 35.00 feet thereof also Lots 53 thru 182 including also all adjacent vacated streets and alleys Livonia Park Sub T1S R9E L51 P92 WCR more particularly described as beginning at a point distant S 00°01'50" E 88.00 feet and S 89°45'00" E 43.00 feet from N 1/4 corner Section 22 proceeding thence S 89°45'00" E 621.55 feet thence S 00°09'29" E 1199.18 feet thence N 89°19' 58" W 625.53 feet thence N 00°01'50" E 1194.60 feet to POB 17.13 acres (Sidwell No. 085-02-0027-001), shall be known and referred to as "Jack E. Kirksey Recreation Center."

10. The natatorium contained within the Jack E. Kirksey Recreation Center shall be known and referred to as the "Ronald R. Reinke Aquatic Center."

11. The land owned by the City in that part of Lots 19 through 26, inclusive, EXCEPT the north 35.00 feet thereof, also part of lots 18 and 190, and lots 191

through 208, inclusive and lots 209 through 227, inclusive, also all adjacent streets and alleys in "LIVONIA PARK SUBDIVISION" of the Northwest 1/4 of the Northeast 1/4 of Section 22, Town 1 South, Range 9 East, Livonia Township (now City of Livonia), Wayne County, Michigan, as recorded in Liber 51, Page 92, Wayne County Records, more particularly described as: beginning South 00 degrees 01 minutes 50 seconds East, 88.00 feet and South 89 degrees 45 minutes 00 seconds East, 665.12 feet (recorded as 664.55 feet) from the North 1/4 corner of said Section 22; thence continuing South 89 degrees 45 minutes 00 seconds East, 201.00 feet; thence South 00 degrees 07 minutes 20 seconds East, 900.00 feet; thence North 89 degrees 45 minutes 00 seconds West, 200.96 feet; thence North 00 degrees 07 minutes 45 seconds West (recorded as North 00 degrees 09 minutes 29 seconds West), 900.00 feet to the Point of Beginning, containing 180,846 square feet, or 4.15 acres, more or less, and attached to the Jack E. Kirksey Recreation Center, shall be known and referred to as the "Livonia Senior Wellness Center."

Section 2. All ordinances or parts of ordinances in conflict herewith are hereby repealed only to the extent necessary to give this ordinance full force and effect.

Section 3. Should any portion of this ordinance be held invalid for any reason, such holding shall not be construed as affecting the validity of any of the remaining portions of this ordinance.

**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD JUNE 16, 2025**

22.

Meeting was called to order at 9:00 p.m. by Council President McCullough. Present: Scott Morgan, Laura Toy, Rob Donovic, Vice President Ptashnik, Carrie Budzinski, Lynda Scheel, and President McCullough. Absent: None.

Elected and appointed officials present: Eric Goldstein, Assistant City Attorney; Lori L. Miller, City Clerk; Mark Taormina, City Planner and Economic Development Director; Dave Lear, Assistant City Engineer.

Councilmember Morgan led the meeting with the Pledge of Allegiance.

13. PROPOSED AMENDMENT TO THE LIVONIA CODE OF ORDINANCES, AS AMENDED: Department of Law, re: to amend Section 100 of Title 9, Chapter 56 (Malicious Mischief), to modernize the language used in the malicious use of a telephone ordinance.

Eric Goldstein, Assistant City Attorney, introduce Sydnee Rogers, the newest addition to the Law Department who serves as the City's Prosecuting Attorney, to present the item. Ms. Rogers stated the request is to amend an ordinance existing in Livonia, but to modernize the ordinance. The ordinance is antiquated and involves people calling each other to make "prank" phone calls. When implemented, cell phones and texting did not exist. The purpose of the amendment is to address the ways in which the public now communicates, including texting, and to bring the ordinance up to current times.

Motion was made by Councilmember Donovic to have the Law Department draft the proposed Ordinance amendment and the matter appear on the Regular portion of the next Regular Agenda.

DIRECTION:

PREPARE ORDINANCE

REGULAR



LETTER TO THE LIVONIA CITY COUNCIL

13.

Law
June 16, 2025

MEETING DATE

S061625/R070725/R072125

PRESENTED BY

Sydney Rogers, Assistant City Attorney

AGENDA ITEM

PROPOSED AMENDMENT TO THE LIVONIA CODE OF ORDINANCES, AS AMENDED: Department of Law, re: to amend Section 100 of Title 9, Chapter 56 (Malicious Mischief), to modernize the language used in the malicious use of a telephone ordinance.

BACKGROUND DETAILS

In the course of prosecuting local ordinance violations, we discovered a need to modernize the language used in the malicious use of a telephone ordinance. The current ordinance that was originally adopted in 1997 focuses on telephone conversations. In 2025, the vast majority of telephone communication is done through text messages. Recently, a person charged with violating the malicious use of a telephone ordinance sought to escape consequences through highlighting the age of the ordinance and the specific language of the ordinance. The proposed language change will meet the goal of the ordinance, which is to prevent a person from using a telephone to terrorize, frighten, intimidate, threaten, harass, molest, annoy or to disturb the peace of another person.

Accordingly, herewith submitted for your consideration is the proposed ordinance amendment prepared by the Department of Law.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

First Read

ATTACHMENTS

1. S061625 LTC Prop Amend - S100, T9, C56
2. 56-100 - Malicious Use by Telecommunications Service Provider

APPROVED BY

Carter Fisher, City Attorney

Date:

Maureen Miller Brosnan, Mayor

Date:

**AN ORDINANCE AMENDING SECTION 100
OF TITLE 9, CHAPTER 56 (MALICIOUS
MISCHIEF) OF THE LIVONIA CODE OF
ORDINANCES, AS AMENDED**

THE CITY OF LIVONIA ORDAINS:

Section 1. Section 100 of Title 9, Chapter 56 of the Livonia Code of Ordinances, as amended, is hereby amended to read as follows:

9.56.100 Malicious use of ~~the telephone~~ -- ~~Prohibited acts designated service provided by telecommunications service provider.~~ 1. ~~It is unlawful for any~~ A person ~~to who~~ maliciously uses any service provided by a ~~telecommunications common carrier service provider~~, with intent to terrorize, frighten, intimidate, threaten, harass, molest, or annoy another person, or to disturb the peace and quiet of ~~any other another~~ person ~~as hereinafter provided by doing any of the following is guilty of a misdemeanor:~~

A. Threatening physical harm or damage to any person or property ~~of another~~ in the course of a ~~telephone~~ conversation, text message or voicemail through the use of a telecommunications service or device;

B. Falsely and deliberately reporting by message through the use of a telecommunications service or device ~~telephone or telegraph message~~ that any person has been injured, has suddenly taken ill, has suffered death, or has been the victim of a crime, ~~or the victim of~~ an accident;

C. Deliberately refusing or failing to disengage a connection between a ~~telephone~~ telecommunications device and another telecommunications device or between a telecommunications device and other equipment provided for the transmission of messages through the use of a telecommunications service or device and another telephone, or between a telephone and other equipment provided for the transmission of message by telephone, thereby interfering with any communications service;

D. Using ~~any~~ vulgar, indecent, obscene or offensive language or suggesting any lewd or lascivious act in the course of a ~~telephone~~ conversation, text message or voicemail through the use of a telecommunications service or device;

E. Repeatedly initiating a telephone call and, without speaking, deliberately hanging up or breaking the telephone connection as or after the telephone call is answered~~;~~₁

F. Making an unsolicited commercial telephone call which is received between the hours of 9:00 p.m. and 9:00 a.m. ~~For the purpose of~~ As used in this subdivision, "an unsolicited commercial telephone call" means a call made by a person or recording device, on behalf of a person, corporation, or other entity, soliciting business or contributions~~;~~₁

G. Deliberately engaging or causing to engage the use of a telecommunications service or device of ~~calling a telephone of~~ another person in a repetitive manner which causes interruption in ~~telephone telecommunications~~ service or prevents the person from utilizing ~~his or her telephone the person's telecommunications~~ service or device.

2. Any person violating this section may be imprisoned for not more than ninety~~-three~~ (903) days, or fined not more than five hundred dollars (\$500.00) or both. An offense is committed under this section if the communication either originates or terminates or both originates and terminates in the City of Livonia and may be prosecuted at the place of origination or termination.

Section 2. All ordinances or parts of ordinances in conflict herewith are hereby repealed only to the extent necessary to give this ordinance full force and effect.

Section 3. Should any portion of this ordinance be held invalid for any reason, such holding shall not be construed as affecting the validity of any of the remaining portions of this ordinance.

**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD JUNE 16, 2025**

23.

Meeting was called to order at 9:00 p.m. by Council President McCullough. Present: Scott Morgan, Laura Toy, Rob Donovic, Vice President Ptashnik, Carrie Budzinski, Lynda Scheel, and President McCullough. Absent: None.

Elected and appointed officials present: Eric Goldstein, Assistant City Attorney; Lori L. Miller, City Clerk; Mark Taormina, City Planner and Economic Development Director; Dave Lear, Assistant City Engineer.

Councilmember Morgan led the meeting with the Pledge of Allegiance.

14. PROPOSED AMENDMENT TO THE LIVONIA CODE OF ORDINANCES, AS AMENDED: Department of Law, re: to amend Chapter 88 of Title 9 (Sale of Tobacco Products to Persons Under Age 21), to mirror the penalties of the state statute and tailor the language of the ordinance to prohibit the use of a nicotine vape in school buildings.

Sidnee Rogers, Law Department, presented the item to Council. Ms. Rogers indicated the current Ordinance regarding tobacco sales is outdated and does not include vaping, which is how most youth today are using nicotine. Ms. Rogers further indicated the current Ordinance is not in line with State law and punishment for the first offense should not be a misdemeanor. Ms. Rogers explained if the first offense is changed to a citation, it can be handled “in house” by the 16th District Court and would not need to be transferred to the Wayne County Circuit Court. Ms. Rogers concluded the change requested is to bring City Ordinance up to date and aligned with State law.

Vice President Ptashnik indicated as a full-time high school teacher, she can attest to the problems and prevalence of nicotine vaping that occurs in our local high schools.

Motion was made by Vice President Ptashnik to have the Law Department draft the proposed Ordinance amendment and the matter appear on the Regular portion of the next Regular Agenda.

DIRECTION:	PREPARE ORDINANCE	REGULAR
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LETTER TO THE LIVONIA CITY COUNCIL

14.

Law
June 16, 2025

MEETING DATE

S061625/R070725/R072125

PRESENTED BY

Sydnee Rogers, Assistant City Attorney

AGENDA ITEM

PROPOSED AMENDMENT TO THE LIVONIA CODE OF ORDINANCES, AS AMENDED: Department of Law, re: to amend Chapter 88 of Title 9 (Sale of Tobacco Products to Persons Under Age 21), to mirror the penalties of the state statute and tailor the language of the ordinance to prohibit the use of a nicotine vape in school buildings.

BACKGROUND DETAILS

It has come to the Law Department's attention the penalty for violating the local ordinance regarding possession of tobacco by an underage person differs from the state statute due to a recent statute change. The penalty for the first two offenses under the state statute is a civil infraction. A person would be charged with a misdemeanor after two or more prior judgments. Currently, the local ordinance makes any offense a misdemeanor. The Law Department is seeking to amend the ordinance to mirror the penalties of the state statute and tailor the language of the ordinance to prohibit the use of a nicotine vape in school buildings.

According, herewith submitted for your consideration is the proposed ordinance amendment prepared by the Department of Law.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

First Read

ATTACHMENTS

1. S061625 LTC Prop Amend - T9, C88
2. Chapter 88 Sale of Tobacco Products to Persons under 21 - 021825

APPROVED BY

Carter Fisher, City Attorney

Date:

Maureen Miller Brosnan, Mayor

Date:

**AN ORDINANCE AMENDING CHAPTER 88 (SALE OF
TOBACCO PRODUCTS TO PERSONS UNDER AGE 21)
OF TITLE 9 OF THE LIVONIA CODE OF ORDINANCES,
AS AMENDED.**

THE CITY OF LIVONIA ORDAINS:

Section 1. Chapter 88 of Title 9 of the Livonia Code of Ordinances, as amended, is hereby amended to read as follows:

CHAPTER 9.88

SALE OF TOBACCO PRODUCTS TO PERSONS UNDER AGE 21

Sections:

9.88.010 Definitions.

**9.88.0~~12~~0 Sale of tobacco products to persons under age 21 prohibited—
Penalty.**

**9.88.0~~23~~0 Written policy against sale of tobacco products to persons
under age 21—Affirmative defense—Rebuttal.**

**9.88.0~~34~~0 Use or possession of tobacco products by persons under age
21 in public—Penalty—Health promotion and risk assessment
program.**

9.88.10 Definitions. As used in this chapter:

**A. "Alternative nicotine product" means a noncombustible product containing
nicotine that is intended for human consumption, whether chewed,
absorbed, dissolved, or ingested by any other means. Alternative nicotine
product does not include a tobacco product, a vapor product, food, or a
product regulated as a drug or device by the United States Food and Drug
Administration under 21 USC 351 to 360ff-7.**

B. "Minor" means an individual who is less than 21 years of age.

C. "Public place" means a public street, sidewalk, or park or any area open to the general public in a publicly owned or operated building or public place of business.

D. "Vapor product" means a noncombustible product that employs a heating element, power source, electronic circuit, or other electronic, chemical, or mechanical means, regardless of shape or size, that can be used to produce vapor from nicotine or any other substance, and the use or inhalation of which simulates smoking. Vapor products include an electronic cigarette, electronic cigar, electronic cigarillo, electronic pipe, or similar product or device and a vapor cartridge or other container of nicotine or other substance in a solution or other form that is intended to be used with or in an electronic cigarette, electronic cigar, electronic cigarillo, electronic pipe, or similar product or device. Vapor product does not include a product regulated as a drug or device by the United States Food and Drug Administration under 21 USC 351 to 360ff-7.

9.88.0120 Sale of tobacco products to persons under age 21 prohibited—Penalty. A. It is unlawful for any person to sell, give or furnish any cigarette, including but not limited to an electronic cigarette or nicotine inhalant, cigar, chewing tobacco, tobacco snuff or tobacco in any other form, nicotine, or nicotine product to a person under twenty-one (21) years of age.

B. A person who violates the provisions of subsection A of this section is guilty of a misdemeanor, punishable by a fine of not less than one hundred dollars (\$100.00) for each offense.

9.88.0230 - Written policy against sale of tobacco products to persons under age 21—Affirmative defense—Rebuttal. A. It is an affirmative defense to a charge pursuant to Section 9.88.010 that the defendant had in force at the time of the arrest and continues to have in force a written policy to prevent the sale of cigarettes, including but not limited to an electronic cigarette or nicotine inhalant, cigars, chewing tobacco, tobacco snuff and other tobacco products, nicotine, or nicotine product to persons under twenty-one (21) years of age, and that the defendant enforced and continues to enforce the policy. A defendant who proposes to offer evidence of the affirmative defense described in this subsection shall file and serve notice of the defense, in writing, upon the court and the city attorney. The notice shall be served not less than fourteen (14) days before the date set for trial.

B. A city attorney who proposes to offer testimony to rebut the affirmative defense described in subsection A of this section shall file and serve a notice of rebuttal, in writing, upon the court and the defendant. The notice shall be served not less than

seven (7) days before the date set for trial, and shall contain the name and address of each rebuttal witness.

9.88.0340 - Use or possession of ~~tobacco-vape product or alternative nicotine~~ products by persons under age 21 in public—Penalty—Health promotion and risk assessment program. A. A person under twenty-one (21) years of age shall not ~~do any of the following: possess or smoke cigarettes, including but not limited to an electronic cigarette or nicotine inhalant, or cigars; or possess or chew, suck or inhale chewing tobacco or tobacco snuff; or possess or use tobacco in any other form, nicotine, or nicotine product on a public highway, street, alley, park or other lands used for public purposes, or in a public place of business or amusement. A person who violates this section is guilty of a misdemeanor, punishable by a fine of not more than one hundred dollars (\$100.00) for each offense. Pursuant to a probation order, the court may require a person who violates this section to participate in a health promotion and risk reduction assessment program, if available. A probationer who is ordered to participate in a health promotion and risk reduction assessment program under this section is responsible for the costs of participating in the program. In addition, a person who violates this section is subject to the following:~~

1. Purchase or attempt to purchase a vapor product or alternative nicotine product.
2. Possess or attempt to possess a vapor product or alternative nicotine product.
3. Use a vapor product or alternative nicotine product in a public place of school.
4. Present or offer to an individual a purported proof of age that is false, fraudulent, or not actually his or her own proof of age for the purpose of purchasing, attempting to purchase, possessing, or attempting to possess a vapor product or alternative nicotine product.

~~A. For the first violation, the court may order the person to do one (1) of the following:~~

B. An individual who violates subsection (A) is responsible for a civil infraction or guilty of a misdemeanor.

1. For the first violation, the individual is responsible for a civil infraction and shall be fined not more than fifty (\$50.00) dollars. The court may order the individual to participate in a health promotion program and risk reduction assessment program, if available. In addition, the court may order the individual to Pperform not more than sixteen (16) hours of community service in a hospice, nursing home or long-term care facility;
2. Participate in a health promotion and risk reduction program, as described in this subsectionFor the second violation, the individual is responsible for a civil infraction and shall be fined not more than fifty (\$50.00). The court

may order the individual to participate in a health promotion program and risk reduction assessment program, if available. In addition, the court may order the individual to perform not more than thirty-two (32) hours of community service.

BC. For a second violation, in addition to participation in a health promotion and risk reduction program, the court may order the person to perform not more than thirty-two (32) hours of community service in a hospice, nursing home or long-term care facility. If a violation of subsection (A) occurs after 2 or more prior judgments, the individual is guilty of a misdemeanor punishable by a fine of not more than fifty (\$50.00) dollars for each violation. Pursuant to a probation order, the court may also require the individual to participate in a health promotion and risk reduction assessment program, if available. In addition, the court may order the individual to perform not more than forty-eight (48) hours of community service.

CD. For a third or subsequent violation, in addition to participation in a health promotion and risk reduction program, the court may order the person to perform not more than forty-eight (48) hours of community service in a hospice, nursing home or long-term care facility. An individual who is ordered to participate in a health promotion and risk reduction assessment program is responsible for the cost of participating in the program.

Section 2. All ordinances or parts of ordinances in conflict herewith are hereby repealed only to the extent necessary to give this ordinance full force and effect.

Section 3. Should any portion of this ordinance be held invalid for any reason, such holding shall not be construed as affecting the validity of any of the remaining portions of this ordinance.

**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD JUNE 16, 2025**

24.

Meeting was called to order at 9:00 p.m. by Council President McCullough. Present: Scott Morgan, Laura Toy, Rob Donovic, Vice President Ptashnik, Carrie Budzinski, Lynda Scheel, and President McCullough. Absent: None.

Elected and appointed officials present: Eric Goldstein, Assistant City Attorney; Lori L. Miller, City Clerk; Mark Taormina, City Planner and Economic Development Director; Dave Lear, Assistant City Engineer.

Councilmember Morgan led the meeting with the Pledge of Allegiance.

15. PROPOSED AMENDMENT TO THE LIVONIA CODE OF ORDINANCES, AS AMENDED: Department of Law, re: to add Section 045 of Title 9, Chapter 04 (Obstructing Officers and City Business), in order to give additional protection to a person that is making an emergency call and to criminalize the act of interfering with emergency services.

Sidnee Rogers, Law Department, presented the item to Council. Ms. Rogers indicated this third item is like the previous item. The current ordinance does not offer protection to individuals who contact the police to not be threatened or harassed by other individuals. Ms. Rogers stated this would put the City ordinance in alignment with State law.

President McCullough thanked Ms. Rogers for bringing these items to Council for process improvement and encouraged to continue to do so.

Motion was made by Councilmember Toy to have the Law Department draft the proposed Ordinance amendment and the matter appear on the Regular portion of the next Regular Agenda.

DIRECTION:

PREPARE ORDINANCE

REGULAR



LETTER TO THE LIVONIA CITY COUNCIL

15.

Law
June 16, 2025

MEETING DATE

S061625/R070725/R072125

PRESENTED BY

Sydnee Rogers, Assistant City Attorney

AGENDA ITEM

PROPOSED AMENDMENT TO THE LIVONIA CODE OF ORDINANCES, AS AMENDED: Department of Law, re: to add Section 045 of Title 9, Chapter 04 (Obstructing Officers and City Business), in order to give additional protection to a person that is making an emergency call and to criminalize the act of interfering with emergency services.

BACKGROUND DETAILS

The Law Department is seeking the addition of a local ordinance prohibiting a person from interfering with another during an emergency call. While working with the Police Department and prosecuting domestic assault and battery cases it has become evident that the City of Livonia needs a local ordinance prohibiting this conduct. The goal of the ordinance is to give additional protection to a person that is making an emergency call and to criminalize the act of interfering with emergency services. There is a state statute that prohibits interference with an emergency call for help. A local ordinance is still needed because it allows the Law Department to charge the offense and to keep the prosecution at 16th District Court.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

First Read

ATTACHMENTS

1. S061625 LTC Prop Amend - S45, T9, C04
2. 9.04.045 - adding interfering with emergency call

APPROVED BY

Carter Fisher, City Attorney

Date:

Maureen Miller Brosnan, Mayor

Date:

**AN ORDINANCE ADDING SECTION 045 TO TITLE 9,
CHAPTER 04 (OBSTRUCTING OFFICERS AND CITY
BUSINESS) OF THE LIVONIA CODE OF ORDINANCES,
AS AMENDED.**

THE CITY OF LIVONIA ORDAINS:

Section 1. Section 045 of Title 9, Chapter 04 of the Livonia Code of Ordinances, as amended, is hereby added to read as follows:

9.04.045 **Interfering with emergency call.** **(1)** A person shall not willfully cut, break, disconnect, interrupt, prevent, obstruct or delay another's call or message to the police department, fire department or other law enforcement agent.

(b) A person found guilty of violating this section may be punished by imprisonment for not more than ninety-three (93) days or a fine of not more than five hundred dollars (\$500) or both.

Section 2. All ordinances or parts of ordinances in conflict herewith are hereby repealed only to the extent necessary to give this ordinance full force and effect.

Section 3. Should any portion of this ordinance be held invalid for any reason, such holding shall not be construed as affecting the validity of any of the remaining portions of this ordinance.

**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD JULY 07, 2025**

25.

Meeting was called to order at 9:08 p.m. by Vice President Ptashnik. Present: Scott Morgan, Laura Toy, Rob Donovic, Carrie Budzinski, Lynda Scheel, and Vice President Ptashnik. Absent: Council President McCullough.

Elected and appointed officials present: Carter Fisher, City Attorney; Lori L. Miller, City Clerk; Mark Taormina, City Planner and Economic Development Director; Dave Lear, Assistant City Engineer.

Councilmember Toy led the meeting with the Pledge of Allegiance.

2. BLOCK PARTY: Ray Franges and Jim Rumrill, re: to be held Friday, August 8, 2025, from 12:00 p.m. to 10:00 p.m., on Brentwood Street between Jacquelyn Drive and Meadowlark Street, with a rain date of Saturday, August 9, 2025.

Petitioner was absent from the meeting.

Motion was made by Councilmember Donovic to put the matter on the Regular portion of the next Regular Agenda.

DIRECTION:

APPROVING

REGULAR



LETTER TO THE LIVONIA CITY COUNCIL

2.

Clerk
May 28, 2025

MEETING DATE

S070725/R072125

PRESENTED BY

AGENDA ITEM

BLOCK PARTY: Ray Franges and Jim Rumrill, re: to be held Friday, August 8, 2025, from 12:00 p.m. to 10:00 p.m., on Brentwood Street between Jacquelyn Drive and Meadowlark Street, with a rain date of Saturday, August 9, 2025.

BACKGROUND DETAILS

They will host a block party with a bounce house, barbecue, games, and music.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

Approve as submitted.

ATTACHMENTS

1. S070725 LTC Block Party Ray Franges
2. S061625, Block Party, Ray Franges, 14430 Brentwood

APPROVED BY

Doris DeMarco, Deputy Clerk

Date: May 28, 2025

**REQUEST FOR NOISE WAIVER BLOCK PARTY and/or
BARRICADING OF CITY STREETS**

Send to: Livonia City Council, c/o City Clerk, 33000 Civic Center Drive, Livonia, MI 48154-3097
or hand deliver to the City Clerk's Office at least 8 weeks prior to the planned event

PLEASE PRINT

Date of Application: May 27 Date to appear at a Council Meeting: _____

Name of Neighborhood Representative: Ray Franges Jan Rumlall

Address (please include zip code): 14430 Brentwood Livonia, Mi. 48154

Telephone Number with area code: Home: 734-634-7153 Office: _____

Email: Rpfranges@yahoo.com

Please circle what is being requested – "BLOCK PARTY" and/or "STREET BARRICADING"

<u>Aug. 8</u>	<u>Aug. 9</u>	<u>12:00 – 10:00</u>
Date of Block Party and/or Barricading	Rain Date	Start/end time of Block Party and/or Barricading End time is no later than 10:00 p.m.

Location of Block Party and/or Barricading: (Be specific. Indicate which streets and between which boundaries).

Brentwood St. between Meadowlark & Jacquelyn

Type of Event: Briefly (Describe activities planned. Music, barbecue, games, etc.) Music, Bar-B.Q.
Bounce, House, Games

How many barricades are you requesting (max. 10)? 4

Approximate Number Attending: 100

Date of Council Approval/Denial: _____

Council Resolution Number: _____

2025 MAY 28 AM 8:48

RECEIVED
CITY CLERK'S OFFICE

**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD JULY 07, 2025**

26.

Meeting was called to order at 9:08 p.m. by Vice President Ptashnik. Present: Scott Morgan, Laura Toy, Rob Donovic, Carrie Budzinski, Lynda Scheel, and Vice President Ptashnik. Absent: Council President McCullough.

Elected and appointed officials present: Carter Fisher, City Attorney; Lori L. Miller, City Clerk; Mark Taormina, City Planner and Economic Development Director; Dave Lear, Assistant City Engineer.

Councilmember Toy led the meeting with the Pledge of Allegiance.

3. BLOCK PARTY: Christina Zeoli, re: to be held Saturday, August 9, 2025, from 11:00 a.m. to 8:00 p.m., on Summers Street, between Riverside Drive and Ashurst Street.

Petitioner was absent from the meeting.

Motion was made by Councilmember Donovic to put the matter on the Regular portion of the next Regular Agenda.

DIRECTION:

APPROVING

Regular



LETTER TO THE LIVONIA CITY COUNCIL

3.

Clerk
June 11, 2025

MEETING DATE

S070725/R072125

PRESENTED BY

AGENDA ITEM

BLOCK PARTY: Christina Zeoli, re: to be held Saturday, August 9, 2025, from 11:00 a.m. to 8:00 p.m., on Summers Street, between Riverside Drive and Ashurst Street.

BACKGROUND DETAILS

The event will include food, games, music, a bounce house, and approximately 40 guests.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

Approve as submitted.

ATTACHMENTS

1. S070725, Block Party, Christina Zeoli

APPROVED BY

Doris DeMarco, Deputy Clerk

Date: June 11, 2025

**REQUEST FOR NOISE WAIVER BLOCK PARTY and/or
BARRICADING OF CITY STREETS**

Send to: Livonia City Council, c/o City Clerk, 33000 Civic Center Drive, Livonia, MI 48154-3097
or hand deliver to the City Clerk's Office at least 8 weeks prior to the planned event

PLEASE PRINT

Date of Application: 6/8/2025 Date to appear at a Council Meeting: _____

Name of Neighborhood Representative: Christina Zeoli

Address (please include zip code): 14034 Ashurst Livonia, MI 48154

Telephone Number with area code: Home: 734 679 4021 Office: _____

Email: CZeoli@emich.edu

Please circle what is being requested – “BLOCK PARTY” and/or “STREET BARRICADING”

Aug 9 2025

Date of Block Party
and/or Barricading

Rain Date

11 am – 8 pm

Start/end time of Block Party and/or Barricading

End time is no later than 10:00 p.m.

- Between Riverside + Ashurst St.

Location of Block Party and/or Barricading: (Be specific. Indicate which streets and between which boundaries).

Summers street – west side where
it intersects Riverside drive to the middle
of Summers Street (~ 34708/34713)

Type of Event: Briefly (Describe activities planned. Music, barbecue, games, etc.) Neighborhood
party including games, music, food,
entertainment bounce house

How many barricades are you requesting (max. 10)? 6

Approximate Number Attending: 40

Date of Council Approval/Denial: _____

Council Resolution Number: _____

2025 JUN 11 PM 3:10
RECEIVED
OFFICE OF THE CITY CLERK

**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD JULY 07, 2025**

27.

Meeting was called to order at 9:08 p.m. by Vice President Ptashnik. Present: Scott Morgan, Laura Toy, Rob Donovic, Carrie Budzinski, Lynda Scheel, and Vice President Ptashnik. Absent: Council President McCullough.

Elected and appointed officials present: Carter Fisher, City Attorney; Lori L. Miller, City Clerk; Mark Taormina, City Planner and Economic Development Director; Dave Lear, Assistant City Engineer.

Councilmember Toy led the meeting with the Pledge of Allegiance.

5. BLOCK PARTY: Tracy Nolte, re: to be held Saturday, September 6, 2025, from 4:00 p.m. to 10:00 p.m., on Marie Street and Court, between Knolson Street and Minton Avenue, with a rain date of Saturday, September 13, 2025.

Petitioner was absent from the meeting.

Motion was made by Councilmember Toy to put the matter on the Regular portion of the next Regular Agenda.

DIRECTION:

APPROVING

REGULAR



LETTER TO THE LIVONIA CITY COUNCIL

5.

Clerk
June 13, 2025

MEETING DATE

S070725/R072125

PRESENTED BY

AGENDA ITEM

BLOCK PARTY: Tracy Nolte, re: to be held Saturday, September 6, 2025, from 4:00 p.m. to 10:00 p.m., on Marie Street and Court, between Knolson Street and Minton Avenue, with a rain date of Saturday, September 13, 2025.

BACKGROUND DETAILS

The block party will include music, food, and outdoor games. They anticipate approximately 40 people and are requesting four barricades.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

Approve as submitted.

ATTACHMENTS

1. S070725, Block Party, Tracy Nolte, Knolson St

APPROVED BY

Doris DeMarco, Deputy Clerk

Date: June 13, 2025

**REQUEST FOR NOISE WAIVER BLOCK PARTY and/or
BARRICADING OF CITY STREETS**

Send to: Livonia City Council, c/o City Clerk, 33000 Civic Center Drive, Livonia, MI 48154-3097
or hand deliver to the City Clerk's Office at least 8 weeks prior to the planned event

PLEASE PRINT

Date of Application: 6-12-2025 Date to appear at a Council Meeting: _____

Name of Neighborhood Representative: Dover Arbor / Tracy Nolte

Address (please include zip code): 9386 Knolson St.

Telephone Number with area code: Home: _____ Office: _____

Email: mstiggz23@gmail.com

Please circle what is being requested – **BLOCK PARTY** and/or **"STREET BARRICADING"**

<u>Sept 6, 2025</u>	<u>Sept 13</u>	<u>4-10pm</u>
Date of Block Party and/or Barricading	Rain Date	Start/end time of Block Party and/or Barricading End time is no later than 10:00 p.m.

Location of Block Party and/or Barricading: (Be specific. Indicate which streets and between which boundaries).

On marie st & ct Between Knolson and minton

Type of Event: Briefly (Describe activities planned. Music, barbecue, games, etc.) _____

Block Party - To include yard games, BBQ/potluck music

How many barricades are you requesting (max. 10)? 4

Approximate Number Attending: 40

Date of Council Approval/Denial: _____

Council Resolution Number: _____

**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD JULY 07, 2025**

28.

Meeting was called to order at 9:08 p.m. by Vice President Ptashnik. Present: Scott Morgan, Laura Toy, Rob Donovic, Carrie Budzinski, Lynda Scheel, and Vice President Ptashnik. Absent: Council President McCullough.

Elected and appointed officials present: Carter Fisher, City Attorney; Lori L. Miller, City Clerk; Mark Taormina, City Planner and Economic Development Director; Dave Lear, Assistant City Engineer.

Councilmember Toy led the meeting with the Pledge of Allegiance.

7. SITE PLAN PETITION: Planning Commission, re: Petition 2025-05-08-06 submitted by Rich Naman, requesting site plan approval to construct a 4,164-square-foot warehouse garage at the Six Mid Plaza at 29441 Six Mile Road, located in the Northeast ¼ of Section 14.

Mark Taormina, Planning and Economic Development Director, spoke about a plan to build a garage at the rear of the property, although it would have to be moved further from the property line or granted a variance.

Rich Naman, 29423 Six Mile, said the plan includes placement of a dumpster in the off-set on the east side of the property to solve the issue of garbage being picked up along a main road.

Motion was made by Councilmember Morgan to put the matter on the Regular portion of the next Regular Agenda.

DIRECTION:

APPROVING

REGULAR



LETTER TO THE LIVONIA CITY COUNCIL

7.

Planning
June 16, 2025

MEETING DATE

S070725/R072125

PRESENTED BY

Mark Taormina, Planning and Economic Development Director

AGENDA ITEM

SITE PLAN PETITION: Planning Commission, re: Petition 2025-05-08-06, submitted by Rich Naman, requesting site plan approval to construct a 4,164-square-foot warehouse garage at the Six Mid Plaza at 29441 Six Mile Road, located in the Northeast ¼ of Section 14.

BACKGROUND DETAILS

June 16, 2025

Honorable Members of the City Council
City of Livonia, Michigan

Re: Petition 2025-05-08-06 - Rich Naman

Dear Council Members:

At the 1,231st Meeting held by the Livonia City Planning Commission on June 10, 2025, the following resolution was adopted:

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

#06-29-2025 RESOLVED, That the City Planning Commission does hereby recommend to the City Council that Petition 2025-05-08-06 submitted by Rich Naman, requesting site plan approval under Section 13.13 of the Livonia Zoning Ordinance, as amended, to construct a 4,164-square-foot warehouse garage at the Six Mid Plaza at 29441 Six Mile Road, located in the Northeast ¼ of Section 14, be approved subject to the following conditions:

1. That the Site Plan identified as Sheet C101 dated May 02, 2025, as revised, prepared by HBB Design Collaborative, is hereby approved and shall be adhered to.
2. That the Elevation Plan identified as Sheet A201 dated May 02, 2025, as revised, prepared by HBB Design Collaborative, is hereby approved and shall be adhered to.
3. The use of the warehouse garage shall not be open to the public and only accessible to the property owner and their tenants.

4. All storage shall be clearly incidental to the conduct of the permitted use on site and limited to the storage of business items only.
5. That parking spaces shown on the site plan shall be double striped, including the provision of barrier-free parking, and all regular parking spaces shall be ten feet (10') wide by twenty feet (20') in length, as required.
6. That there shall be no outdoor storage of auto parts, scrap material, waste petroleum products, junked, unlicensed or inoperable vehicles, or other similar items in connection with this operation.
7. There shall be no storage of flammable, explosive, radioactive, hazardous, toxic, or volatile substances within the warehouse garage or upon the premises.
8. No unit designed or intended for storage purposes shall be used for operating a business or recreational activity including, but not limited to, repairs, manufacturing, assembly, personal service, hobby, retail or office.
9. That a dumpster enclosure be added to the site in a location that is satisfactory to the Planning Director.
10. That the three walls of the trash dumpster area shall be constructed out of building materials that shall complement that of the building. The enclosure gates shall be of solid panel steel construction or durable, long-lasting solid panel fiberglass. The trash dumpster area shall be maintained and when not in use closed at all times.
11. That a lighting plan shall be provided to the satisfaction of the Planning Director and Inspection Department.
12. That only conforming signage is approved with this petition, and any additional signage shall be separately submitted for review and approval by the Zoning Board of Appeals; and
13. That unless approved by the proper local authority, any type of exterior advertising, such as promotional flags, streamers or sponsor vehicles designed to attract the attention of passing motorists, shall be prohibited.
14. That the warehouse garage building's exterior wall design, texture and color shall match that of the existing building to the satisfaction of the Planning Director.
15. That all landscaped and sodded areas shall be irrigated and permanently maintained in a healthy condition.
16. That the plan referenced in this approving resolution shall be submitted to the Inspection Department.
17. That the parking lot shall be repaired, resealed, and restriped as necessary to the satisfaction of the Inspection Department.
18. That the front plywood sign shall be repaired with sturdy materials to satisfaction of the

Planning Director and Inspection Department.

19. Pursuant to Section 13.13 of the Livonia Zoning Ordinance, this approval is valid for a period of one year only from the date of approval by City Council, and unless an appropriate permit is obtained, this approval shall be null and void at the expiration of said period.

ATTACHMENTS

1. 2025-05-08-06_E-COUNCIL Pkt

APPROVED BY



Mark Taormina, Planning and Economic Development Director

Date: June 16, 2025



Maureen Miller Brosnan, Mayor

Date: June 20, 2025

Petition 2025-05-08-06 submitted by Rich Naman, requesting site plan approval under Section 13.13 of the Livonia Zoning Ordinance, as amended, to construct a 4,164-square-foot warehouse garage at the Six Mid Plaza at 29441 Six Mile Road, located in the Northeast ¼ of Section 14.

**CITY OF LIVONIA, MICHIGAN
APPLICATION FOR SITE PLAN REVIEW & APPROVAL**

All petitions for Site Plan Approval shall be filed with the City Planning Commission,
33000 Civic Center Drive, Livonia, MI 48154-3097.

For filing fee see computation below

Date Filed: 5/7/25 Petition 2025-05-08-06
Site Address: 29441-29465 6 Mue Sidwell 46-053-99-0001-002
Requesting Approval to 4000 SF OF WAREHOUSE/GARAGE FOR TENNIS
Applicant: RICH NAMAN Business/Company: G-MID PLAZA L.L.C
Applicant's Address: 29423 SX City: LIVONIA State: MI Zip Code: 48152
Applicant's Phone # (248) 240 9450 Applicant's Email RR.NAMAN@AOL.COM
Contact Person: RICH Business/Company: _____
Contact's Address: _____ City: _____ State: _____ Zip Code: _____
Contact's Phone # (_____) _____ Contact's Email _____

Please provide the following information:

- 1) **Site Plan** showing:
 - property dimensions, including road right-of-way & building setback lines
 - foot print of building(s), including dimensions & square footage
 - all easements, protective walls, sidewalks & existing trees
 - any significant topographic features (existing or proposed)
 - parking layout, including type of surface material, sizes of spaces & aisles
 - method used in calculating parking requirement
 - location of light standards servicing parking lot & cutout showing type & height
 - location of trash receptacle, including description of screening
 - location of signs (if proposed must submit separate sign application)
- 2) **Detailed Landscape Plan** including:
 - listing or labeling of all planted materials as to type and size
 - areas to be fully irrigated
 - percentage of landscaping provided (15% of total site required)
- 3) **Building Elevation Plan** depicting:
 - architectural quality
 - wall section & detail plan - exterior building materials must be labeled (i.e. brick, thin brick, E.F.I.S.)
 - all visible rooftop mechanical equipment and how they will be screened
- 4) **General Floor Plan** showing:
 - floor layout
 - entrances & exits
 - restaurants are required to illustrate seating arrangement & capacity
- 5) **One (1) set of reduced plans** (i.e. site, landscape, elevation, floor), a **maximum 11" x 17" in size, or digital file in a .pdf format either on CD or emailed to: planning@livonia.gov**
- 6) **Legal Description** of the property to be considered (**Clearly Printed**)
- 7) One (1) completed application form & **three (3)** sets of full-size drawings

You are invited and encouraged to review your proposal with the Planning Department staff. Only one set of preliminary drawings will be necessary for this analysis.

<u>FEE COMPUTATION</u>	<u>4000</u> sq. ft. of new construction x \$20.00 per 1,000 sq. ft.	\$600.00
	(NOTE: Round off to nearest 1,000) + <u>80</u>	
	Total Amount Due \$	<u>680.00</u>

Owner of Property: G-MID PLAZA
Owner's Address: 27013 HAMPSHIRE City: LIVONIA State: MI Zip Code: 48133
Owner's Phone # (248) 240 9450 Owner's Email RR.NAMAN@AOL.COM
Signature of Owner: [Signature] Print Name: RICH NAMAN

UNAPPROVED MINUTES

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MINUTES OF THE 1,231st PUBLIC HEARINGS AND REGULAR MEETING HELD BY THE CITY PLANNING COMMISSION OF THE CITY OF LIVONIA

On Tuesday, June 10, 2025, the City Planning Commission of the City of Livonia held its 1,230th Public Hearing and Regular Meetings in the Livonia City Hall, 33000 Civic Center Drive, Livonia, Michigan.

Mr. Ian Wilshaw, Chairman, called the meeting to order at 7 p.m.

Members present: David Bongero Sam Caramagno Glen Long
Peter Ventura Ian Wilshaw

Members absent: Wafa Dinaro Patrick Droze

Mr. Jacob Uhazie, Planning Director, and Stephanie Reece, Program Supervisor, were also present.

Chairman Wilshaw informed the audience that if a petition on tonight's agenda involves a rezoning request, this Commission makes a recommendation to the City Council who, in turn, will hold its own public hearing and make the final determination as to whether a petition is approved or denied. The Planning Commission holds the only public hearing on a request for preliminary plat and/or vacating petition. The Commission's recommendation is forwarded to the City Council for the final determination as to whether a plat is accepted or rejected. If a petition requesting a waiver of use or site plan approval is denied tonight, the petitioner has ten days in which to appeal the decision, in writing, to the City Council. Resolutions adopted by the City Planning Commission become effective seven (7) days after the date of adoption. The Planning Commission and the professional staff have reviewed each of these petitions upon their filing. The staff has furnished the Commission with both approving and denying resolutions, which the Commission may, or may not, use depending on the outcome of the proceedings tonight.

ITEM #2 PETITION 2025-05-08-06

Mid-6 Plaza

Mr. Caramagno, Secretary, announced the first item on the agenda Petition 2025-05-08-06 submitted by Rich Naman, requesting site plan approval under Section 13.13 of the Livonia Zoning Ordinance, as amended, to construct a 4,164-square-foot warehouse garage at the Six Mid Plaza at 29441 Six Mile Road, located in the Northeast ¼ of Section 14.

Mr. Uhazie: Good evening. This is a request to construct a 20-foot tall, approximately 4,000 square foot warehouse garage at the rear

of the site for the tenants of the commercial strip located on the south side of Six Mile Road between Middle Belt and Oporto Street. The existing zoning is C-2 (General business). To the west of the property is the Bethel Baptist Church in the RUF zoning. To the north, across Six Mile are store fronts within the C-2 district. To the east, are properties in the C-2 district as well. And South is the Vibe credit union zoned C-2. The parcel is irregularly shaped and measures 1.60 acres in size, with approximately 120 feet of frontage along Six Mile Road by a depth of 290 feet. The site contains an existing 8,110 square foot commercial strip center with approximately 20 parking spaces in front of the property, and an additional 70 parking spaces that are accessible via a 22-foot driveway. Some of the existing tenants include a nail salon and bridal shop. A new site plan was submitted since our last meeting. There is a paper copy in front of you. It's the same basic layout, but it has some of the elements discussed at the study meeting including adding the parking striping, as well as some landscape details. The proposed warehouse will include four separate 1,041 square foot garage spaces for a total area of 4,164 square feet. The garages will be positioned behind the existing nail salon and bridal shop on Six Mile Road. According to Section 7.23, accessory structures in the C-2 district must be customarily incidental to the principal permitted use on the site. A storage garage for the storage of commercial vehicles used by businesses or other permitted activity when located on the same lot therein, and occupying not more than 25% of the area of such lot shall be considered a legal accessory building which this complies with. Accessory uses to those permitted in the section include assembly, repair and storage, which is clearly incidental to the conduct of the permitted use. The proposed warehouse satisfies the setback requirements of the C-2 side yard and rear yard. The site plan shows the garage is setback 10 feet from the existing property line. The proposed warehouse garage satisfies the height requirements of the C-2 zoning district, as the proposed warehouse garage is 20 feet. Vehicle access will remain unchanged from an existing curb cut off Six Mile Road. Circulation appears to be the same after the garage is built. The number of parking spaces in the rear of the building would be reduced from 70 to 35 but that would still provide adequate parking. The petitioner submitted the revised site plan with additional landscaping elements. The plans show the sides and rear of the proposed warehouse garage would have eight feet of mulch surrounding a two-foot walkway. The southeast and southwest corners show a mix a dwarf white pine and baby blue spruce trees with additional baby blue spruce trees along

the rear of the property and both front corners of the warehouse. The petitioner has not provided a lighting plan, but on some of the previous drawings were noted that there were LED flood light fixtures that were added later to the site plan over the garages and the site plan shows sconce lighting at each garage door. One thing to note, there is no dumpster shown on the site plan. The elevation plans show the four 10 x 9 steel overhead garage doors, each with a separate steel door to the right. The building would be constructed with CMU and a metal coping along the top of the building. And the exterior is proposed to be painted, but no color is listed on the plans. With that, Mr. Chairman, I can read out the departmental correspondence.

Mr. Wilshaw: Yes, please.

Mr. Uhazie: The first item is from the Engineering Division, dated May 21, 2025, which reads as follows: *"In accordance with your request, the Engineering Division has reviewed the above referenced petition. We have no objections to the proposed project, but would like to note the following items: 1. The subject parcel is assigned the addresses of #29441 thru #29443 Six Mile Road with the address of #29441 Six Mile Road being assigned to the overall parcel. Should additional addresses be needed, the Owner will need to contact this Department once approvals have been obtained. 2. The existing parcel is currently serviced by public sanitary sewer and water main, as well as private storm sewer. Utility information has not been submitted with the drawings, but we do not believe there will be any adverse effects from the proposed project. 3. Per the original site plans, the layout of the proposed garages is located over the top of a private 15" storm sewer that drains the subject parcel and the parcel to the east. This storm sewer will need to be relocated outside of any proposed footings, or the garage layout will need to be revised. 4. Once approvals have been received, the Owner will need to submit Engineering drawings to this Department to determine what permits will be required."* The letter is signed by David W. Lear, P.E., Assistant City Engineer. The next letter is from the Livonia Fire & Rescue Division, dated May 17, 2025, which reads as follows: *"This office has reviewed the site plan submitted in connection with a request to construct a commercial building on the property located at the above referenced address. We have no objections to this proposal with the following stipulations: What exactly is being stored, manufactured, or for retail in the "warehouse garage"? A further detailed plan review will take place when this division receives an official plan set."* The letter is signed by Brian Kukla, Fire

UNAPPROVED MINUTES

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Marshal. The next letter is from the Division of Police, dated May 19, 2025, which reads as follows: *"I have reviewed the plans in connection with the petition. I have no objections to the proposal."* The letter is signed by Paul Walters, Sergeant, Traffic Bureau. The next letter is from the Inspection Department, dated June 5, 2025, which reads as follows: *"Pursuant to your request, the above-referenced Petition has been reviewed. 1. This property is currently in violation for the storage of a recreational vehicle and an unlicensed/inoperable vehicle on site. This Department has no further objections to this Petition."* The letter is signed by Jerome Hanna, Director of Inspection. The next letter is from the Treasurer's Department, dated June 5, 2025, which reads as follows: *All taxes have been paid on this property."* The letter is signed by Susie Nash, Treasurer. That is the extent of the correspondence.

Mr. Wilshaw: Okay. Thank you, Mr. Uhazie. Is there any questions for our planning staff?

Mr. Bongero: Jacob, do we know if the vehicle violation has been resolved?

Mr. Uhazie: I do not know if it's been resolved.

Rich Naman, owner, No, It belongs to my tenant, and he's being evicted, and I even have text messages from him promising that RV will be removed on the 12th.

Mr. Bongero: Okay. And then regard to the, well, we can...I can wait till you're up. And then on the plan, were we talking about a 20-foot buffer in the back? And now it's showing...

Mr. Uhazie: The ordinance requires a 20-foot buffer, but there is language that allows for City Council and Planning Commission to make, adjustments. The ordinance also allows for the buffering on the other side of the neighboring property to be considered.

Mr. Bongero: Okay, he's requesting 10, that's what the plan shows.

Mr. Uhazie: Yes.

Mr. Bongero: Okay, okay, thank you.

Mr. Wilshaw: You guys are just ruining the flow of my meetings. Any other questions for planning staff? Okay, all right. Now the petitioner is up. Good evening, sir. Would you like to start with your name and address? Please.

Rich Naman, the owner of Six Mid Plaza, Livonia, MI. And what we're proposing over here, basically will clean up that whole area over there, and a lot of this stuff will go into the storage area. As far as the recreational vehicle and abandoned vehicle, the van that didn't have plates on belonged to the same tenant that owns the RV, and he was supposedly permitted by the city to use that RV temporarily as an office because we had wind damage when we had that big storm that hit the area on August 28 I think it was from last year, and he had some damage in the front of his building, and we replaced the roof up there, and because it got uplifted with the wind, but we replaced the roof. And I, right after that, since October, I've been sending him messages that you need to remove that RV. You need to remove that RV. And finally, I had to get some legal counsel, you know. And so we're taking him to court, actually, on June the 25th but his RV, from his text messages, supposed to be moving out on the 12th of June, so a couple days hopefully.

Mr. Wilshaw: Okay, excellent. I'm gonna go see if there's any questions for you.

Mr. Bongero: Just to follow up on that the 20-foot buffer in the rear. Are you looking to do 10 feet now?

Mr. Naman: Yes.

Mr. Bongero: Okay, so if you do, if you move it back to 10, does that get you out of the way of that storm sewer that the buildings can be on top of? Or. Do you still have to move it?

Mr. Naman: No, the storm sewer will be right in front of one of the garages, okay, but the...

Mr. Bongero: We talked to you, had to move it.

Mr. Naman: The one in the front, we're moving it just because it's...we're not going to build on top of it. Actually, we're missing it by a couple feet, but still too close to the front of the proposed building, so we're going to move it further up.

Mr. Bongero: Okay. At the study meeting we had talked, you were 20 feet back. So, if you move it to 10, that gives you, that's bringing you 10 feet further back. So I don't know if that clears the...

Mr. Naman: no...from the...originally, It was 10 foot.

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- Mr. Bongero: Oh, my notes just said you're going to go to 20.
- Mr. Uhazie: I think we discussed the 20 being the requirement. This is just a more detailed version of what was presented at the study.
- Mr. Bongero: Gotcha, I got you. Okay, so you still got, you still have to go through all that. Okay, yes, okay, thank you.
- Mr. Wilshaw: Excellent. Very good. Any other questions for our petitioner?
- Mr. Caramagno: Yeah, I've got some Mr. Chair. A couple of things the let's start with the parking. Jacob, how much parking is actually required on this site?
- Mr. Uhazie: Offhand, I would have to redo the math. I can do that.
- Mr. Caramagno: The reason I ask is the parking as illustrated here on these plans. Look at parking, bumper to bumper, east to west. Is that what I'm seeing here?
- Mr. Naman: Yeah, parallel parking.
- Mr. Caramagno: Parallel parking, the whole way, which is, which is difficult. And if you don't need this much parking, why would you, why would you use that kind of parking on this property? Just doesn't seem, doesn't seem like it's needed if you don't need as much parking.
- Mr. Naman: That would be a question for my architect, I guess he came up with that plan. I thought just keeping the parking the way was okay would be sufficient, because we don't need that much parking. We have like 70 spaces right now as it is.
- Mr. Caramagno: It seems excessive. So, the next question I had with that, I thought, Well, are you going to park that dump truck and trailer in there? And is that why you want them long parking spots, east/west?
- Mr. Naman: No, the dump truck is...that's why these are being built 30 foot deep, so it can slide in there, in the storage.
- Mr. Caramagno: Okay, just looks like it looks like excessive parking to me and then getting in and out of your building. What am I looking at here? 16-18 feet between the parking spaces and the door, which doesn't leave you a lot of room to get a piece of

equipment and out of there Right? Looks, looks tight, doesn't look practical to me. So that's one question I had for you. The next question I had was no dumpster enclosure. Now, between your front building and this building, you got over 12,000 square feet of building here with no dumpster enclosure. I think it's probably time to put a proper dumpster enclosure here.

Mr. Naman: We can do that. The reason, over the years, we haven't done the dumpster enclosure because we have curb service.

Mr. Caramagno: No, I understand, but now you're over 12,000 square feet here, so between two buildings, not counting the other three or four in the front. So I think it's time to make this a true commercial property with a dumpster enclosure. So, I'd like to see something like that put here. And then my last question for you is the sign in front where it says shooter, service that plywood sign, yeah, that what's the plan with that? Because that's unfinished plywood right, sitting in what looks like...

Mr. Naman: We redid the front of the building a few years ago. Yeah, we put stone on the facade on the front, and we were going to use the same stone to cover that pylon. But unfortunately, we don't have enough square footage of that stone, so we're just waiting to put another, you know, similar stone on there. Basically, that's going to be stoned.

Mr. Caramagno: How long do you wait for that? You've got exposed plywood with no finish on it at all there? What that's going to go to? How fast?

Mr. Naman: Well, that plywood is womanized. It's not regular plywood. It's weatherproof, so I agree with you.

Mr. Caramagno: It's not slightly at all, right?

Mr. Naman: It looks ugly.

Mr. Caramagno: Yeah, that needs attention, too. So we need something in the write up, to get that taken care of in a timely fashion, in my opinion. So those are the thing concerns I've got, and I'm willing to hear whatever else we got.

Mr. Wilshaw: Thank you, Mr. Caramagno, is there any other questions or comments from any of our commissioners?

Mr. Ventura: I note that on the site plan that I have on my screen, but evidently not on the screen you're looking at, the mulched area

to the south of the building, and the east and west of the building shows some landscaping. Jacob, have we received a landscape plan with this?

Mr. Uhazie: No, not an official landscape, but they did add the trees on that if you can see the mulched area. It's kind of hard to see on here, but that's where the spruce and white pines are. So, it's not an official landscape plan, but it does have the trees identified and their locations. I zoomed in here on the screen.

Mr. Ventura: And do we reference this landscaping anywhere on the resolutions?

Mr. Uhazie: Not the resolutions. The details of this landscape came in after the e-packet was sent out.

Mr. Ventura: In our notes at the study session, there were questions about the drainage in the parking lot and the condition of the parking lot. Parking lot is a patchwork of different surfaces at different ages and different conditions, and I can only imagine the construction activity that you do back there to build your new building will be...have another deteriorating effect. Are you planning on repaving the entire thing and restriping the entire thing?

Mr. Naman: We are. We're planning on, like, putting another cap on it.

Mr. Ventura: Cap on it.

Mr. Naman: Yeah.

Mr. Ventura: And then finally, we also had some notes about lighting. And Jacob, did we get a lighting plan with this?

Mr. Uhazie: No.

Mr. Ventura: Do we know that this conforms in any way or that it complies with the requirements?

Mr. Uhazie: Not with any strict details?

Mr. Wilshaw: Anything else, Mr. Ventura? Thanks. Any other questions from any of the commissioners for the petitioner?

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Mr. Uhazie: Just one thing to note, Mr. Caramagno's question, the ordinance requires 28 parking spaces, so there's more than sufficient, even just in the front, mostly and a couple in the back.

Mr. Caramagno: So, there's some opportunity to reconfigure that back lot a little.

Mr. Uhazie: They have significant access.

Mr. Caramagno: There's a big opportunity there. Okay, thank you.

Mr. Wilshaw: Yeah, that's, that's one of the most unusual layouts of parking I've seen in a long time. Alright, good. Any other questions or comments from anyone? Anyone in the audience wishing to address the issue? No. I'll go to the petitioner. Is there anything else that you'd like to say before we make our decision?

Mr. Naman: Not really, just we appreciate it if we can work together and get this done. And as far as the lighting that we were talking about, we're going to use flood lights coming off of the building, you know, onto the parking lot, and we're getting rid of that one DTE that they use, you know, the old bulbs. You know that will be gone, because right now, that's all there's in that parking lot. But we're going to put like four flood lights on this parking lot. So, it will be lit up. We wanted to light it up because, again, we had break ins into the bridal, and not anything stolen, just destructive, you know, just so we have cameras back there, but still, you know, last one, he broke in and he hid in the church.,

Mr. Wilshaw: Okay, so, yeah, what you'll probably hear is some discussion around as we proceed with this is...we certainly understand your need for lighting for security reasons, but we also want to make sure that the lighting is not excessive to the point that it shines beyond your property and that type of thing. That's why we have standards. So, we don't want, you know, daylight back there.

Mr. Naman: No me and the guy next door, Chris from Functional Floors. We're working out the details of that.

Mr. Wilshaw: Okay, yeah, we'll see how things proceed. I appreciate your comments, and I'm going to go back to the commission. And if there's no other further questions or comments, a motion would be in order,

On a motion by Ventura, seconded by Bongero, and unanimously adopted, it was

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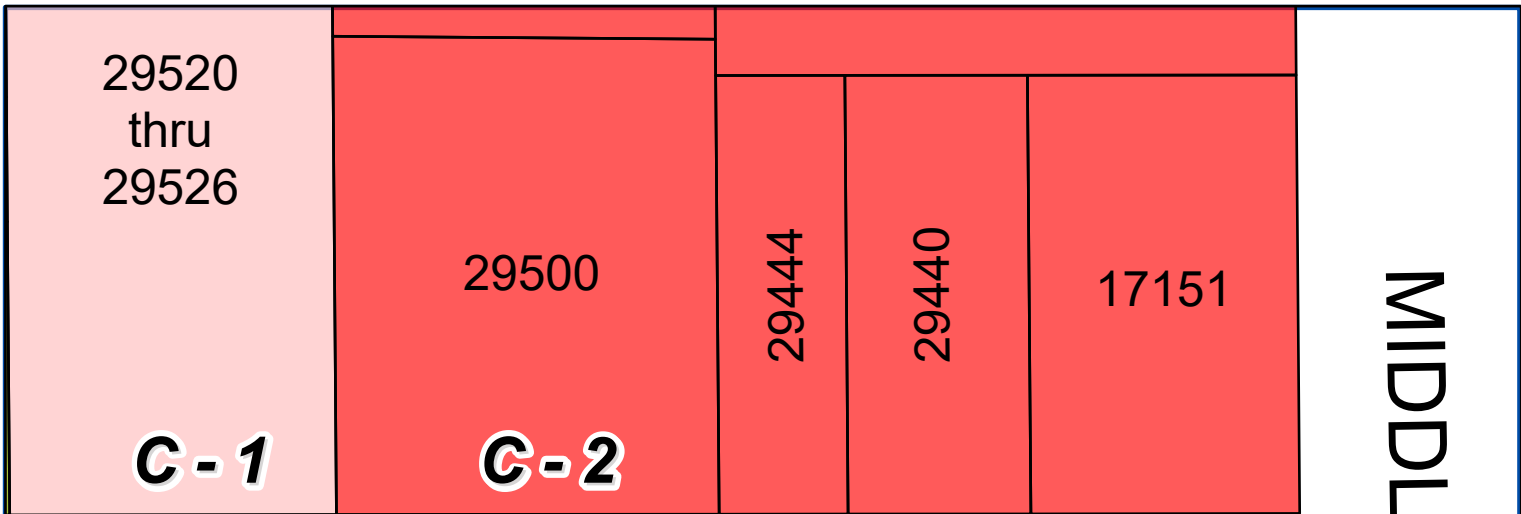
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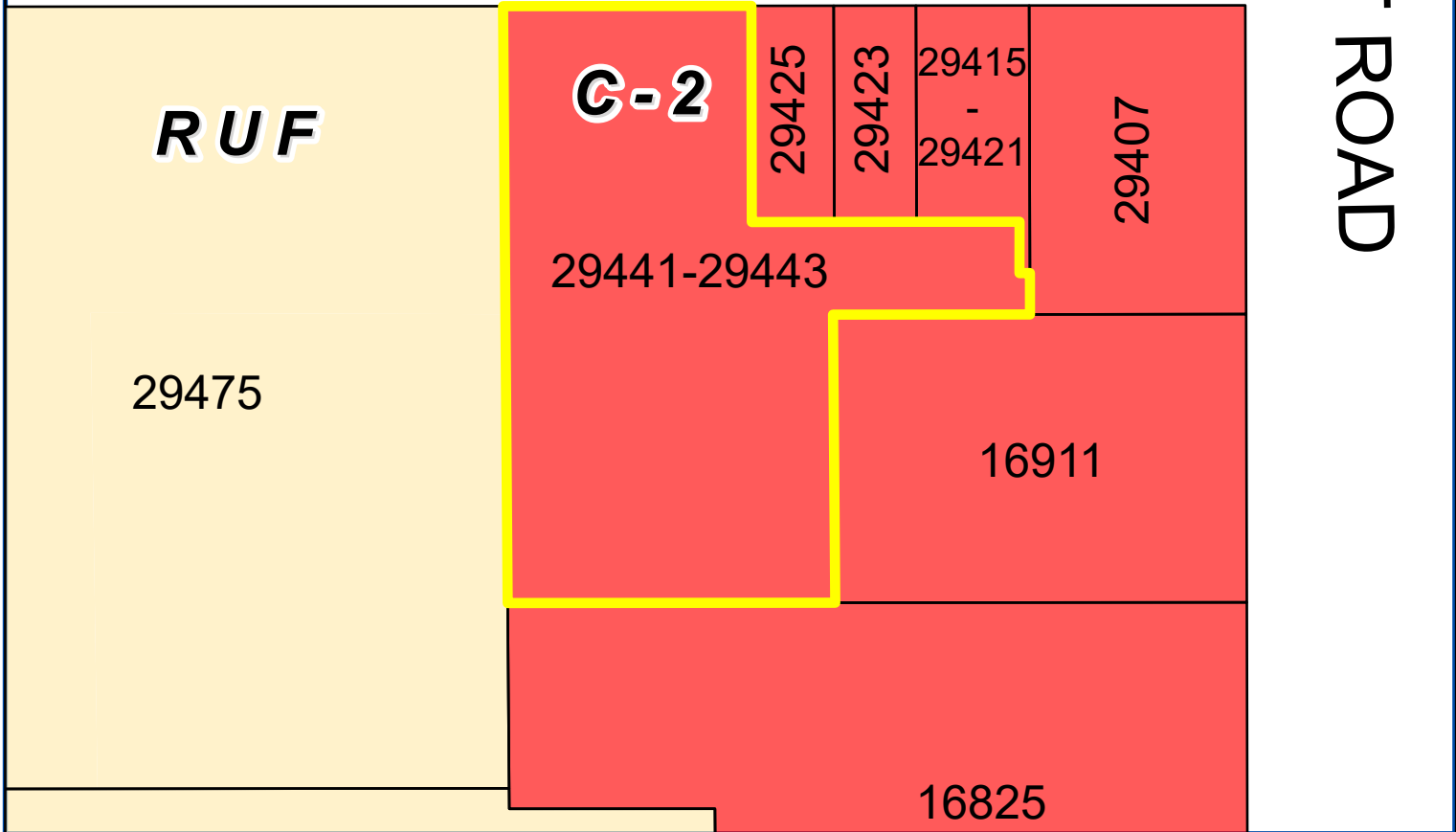
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17. That the parking lot shall be repaired, resealed, and restriped as necessary to the satisfaction of the Inspection Department.
18. That the front plywood sign shall be repaired with sturdy materials to satisfaction of the Planning Director and Inspection Department.
19. Pursuant to Section 13.13 of the Livonia Zoning Ordinance, this approval is valid for a period of one year only from the date of approval by City Council, and unless an appropriate permit is obtained, this approval shall be null and void at the expiration of said period.

Mr. Wilshaw: Is there any discussion?

Mr. Wilshaw, Chairman, declared the motion is carried and the foregoing resolution adopted. It will go on to the City Council with an approving resolution.



SIX MILE ROAD



SIX MILE ROAD

MERRIMAN ROAD

FIVE MILE ROAD

MIDDLEBELT ROAD

14

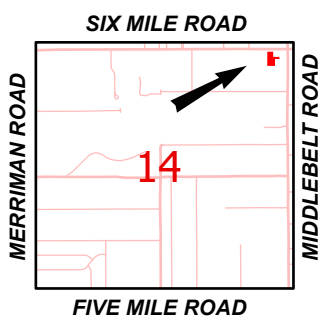
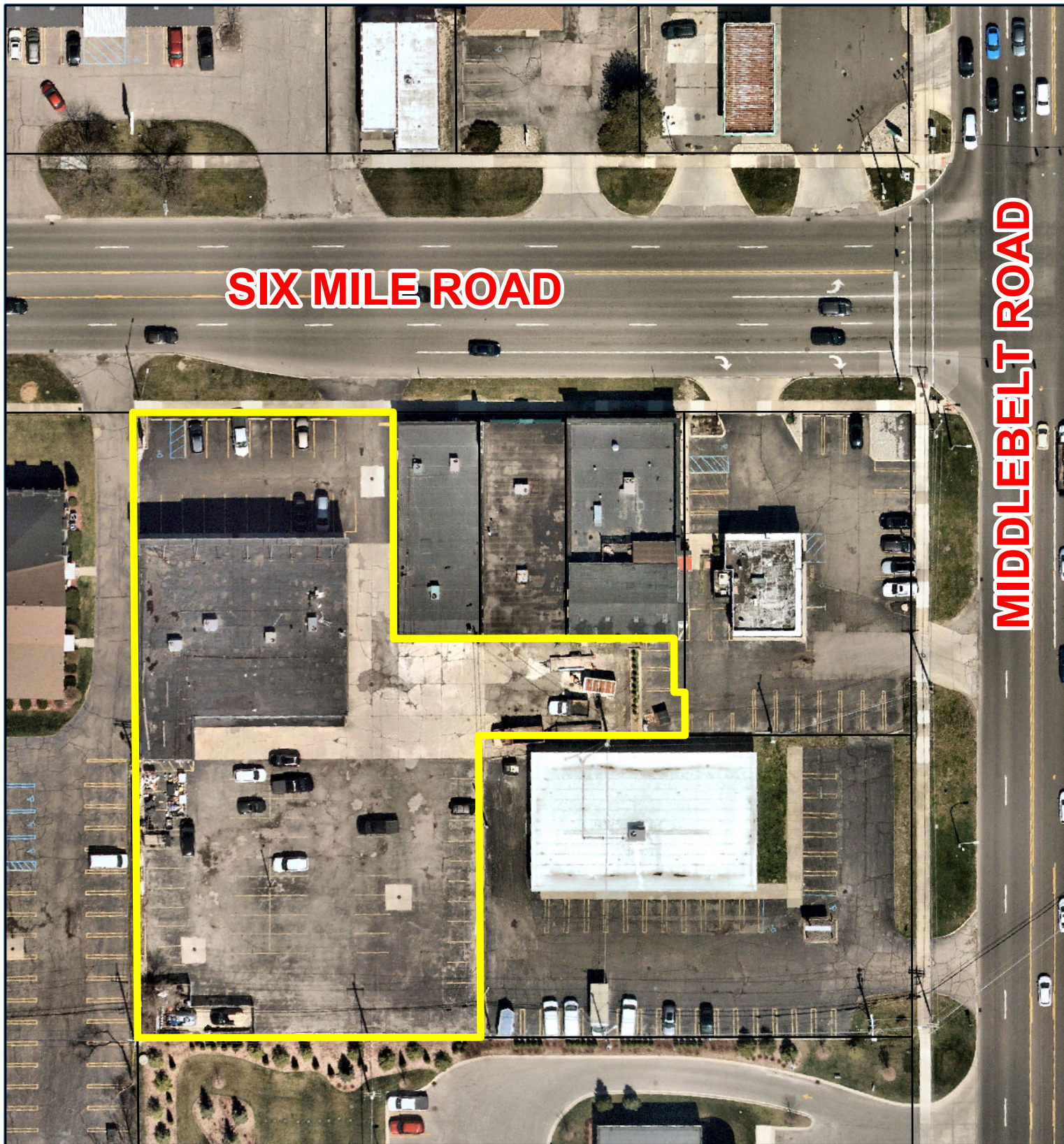
Address & Zoning Map

Petition 2025-05-08-06
6 MID Plaza
29441 - 29465 Six Mile Road

N

Not to Scale

City of Livonia
Planning Department



Aerial Map

Petition 2025-05-08-06
6 MID Plaza
29441 - 29465 Six Mile Road



Not to Scale



City of Livonia
Planning Department

PLANNING COMMISSION STAFF NOTES

Miscellaneous

ITEM 2

Petition 2025-05-08-06 submitted by Rich Naman, requesting site plan approval under Section 13.13 of the Livonia Zoning Ordinance, as amended, to construct a 4,164-square-foot warehouse garage at the Six Mid Plaza at 29441 Six Mile Road, located in the Northeast ¼ of Section 14.

June 3, 2025: Study Meeting:

This petition requests to construct a 20-foot-tall 4000-square-foot warehouse garage for the tenants of the commercial strip at 29441 Six Mile Road. The petitioner has not provided proof that the garage will be used by tenants of the plaza. According to Section 7.23, Accessory structures in the C-2 District must be customarily incidental to the principal permitted use on the site; A storage garage for the storage of commercial vehicles used by a business or other permitted activity, when located on the same lot therewith and occupying not more than twenty-five (25) percent of the area of such lot shall be considered a legal accessory building. Accessory uses to those permitted in this section include assembly, repair and storage which is clearly incidental to the conduct of the permitted use.

The zoning of the parcel is C-2, General Business. The proposed garage will be positioned behind the existing Nail salon and Bridal shop on Six Mile Road. To the west is Bethel Baptist Church in the RUF, Rural Urban Farm Zoning District. Across Six Mile Road, there are storefronts within the C-2, General Business Zoning District. To the East are properties in the C-2 General Business Zoning District. To the south, is the Vibe Credit Union zoned C-2, General Business.

Existing conditions include a parking lot with approximately twenty (20) parking spaces in front of the property along Six Mile Road. There is a 22-foot driveway into the rear of the businesses with a parking lot with approximately seventy (70) parking spaces. Vehicle access will remain from an existing curb cut off Six Mile Road. Circulation appears to be the same after the garage is built.

The proposed warehouse satisfies the setback requirement of the C-2 Side Yard and Rear Yard as the garage will have an eight (8)-foot setback to the RUF zone and a C-2 Zone. The proposed warehouse satisfies the height requirement of the C-2 Zoning district as the proposed warehouse garage will be twenty (20) feet and the height requirement in the C-2 District is 35 feet.

The warehouse will include four (4) separate 1,041-square-foot garage spaces. The north elevation on Sheet A201 shows four (4) 10'x9' Steel Overhead garage doors, each with a separate Steel door to the right. The building will be constructed with CMU (Concrete Masonry Unit) with a metal coping along the top of the building. The exterior is proposed to be painted. The Planning Commission should request the petitioner to have the garage match the façade of the tenants it serves.

The petitioner has not provided a landscape plan. According to Landscape Design Requirements in Section 10.03 of the Livonia Zoning Ordinance, a development in a C-2 Zoning district adjacent to an RUF zoning district is required to have a six (6) foot high masonry wall or opaque fence and/or a twenty (20) foot wide greenbelt buffer, with one (1) tree per twenty (20) linear feet (minimum of 50% evergreen trees), subject to City Council review and approval. Trees and shrubs must not be placed closer than four (4) feet to the fence line or property line. Fences are prohibited in all commercial zoning districts. The petitioner must submit a landscape plan that satisfies the Landscape Plan Requirements in Section 10.02 of the Livonia Zoning Ordinance.

The petitioner also has not provided a lighting plan. There were LED Floodlight fixtures that were hand drawn on the site plan over the garage doors. The site plan shows Sconce Lighting at each garage door. Please have the petitioner produce a photometric plan. Exterior lighting sources shall be designed, constructed, located, and maintained in a manner that minimizes light trespass onto neighboring properties. The light trespass from a property shall not exceed 0.5-foot-candles at the property line, measured five (5) feet from the ground. The light-emitting element of a light fixture shall not be directly visible from neighboring properties, as this is the primary cause of glare.

According to Surface and Drainage ordinances in Section 9.10, all off-street parking areas shall be continually maintained in satisfactory condition to be safe, attractive, and free of any hazard, nuisance, or other unsafe conditions.

In conclusion, for this garage to be constructed, the Planning Commission should consider adding stipulations regarding proper landscaping, lighting, and parking lot surface and drainage to the resolution.

June 10, 2025: Public Hearing

Approving Resolution: That the request, to construct a 4,164-square-foot warehouse garage at the Six Mid Plaza at 29441 Six Mile Road is hereby approved, subject to City Council approval and the following conditions:

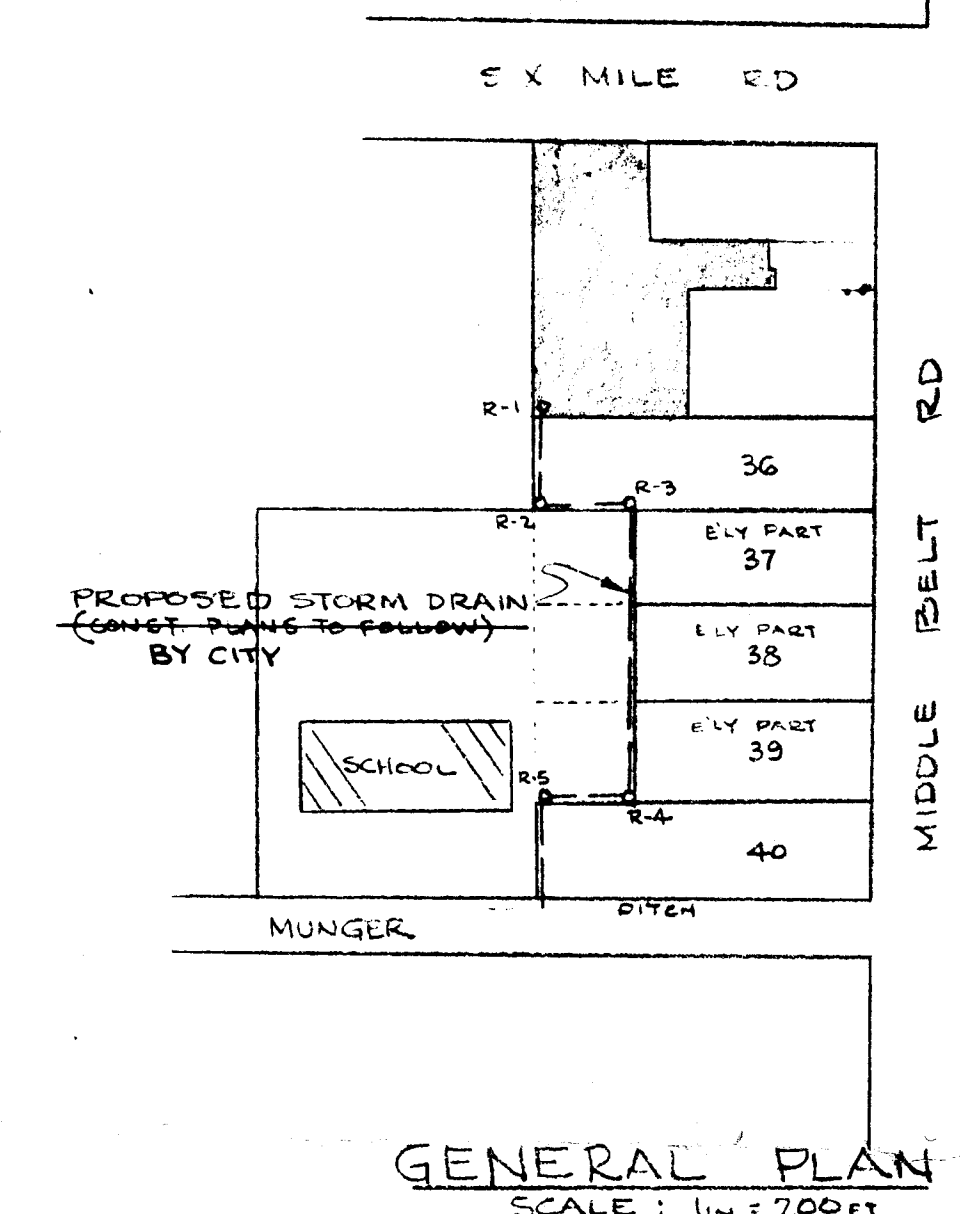
1. That the Site Plan identified as Sheet C101 dated May 02, 2025, as revised, prepared by HBB Design Collaborative, is hereby approved and shall be adhered to.
2. That the Elevation Plan identified as Sheet A201 dated May 02, 2025, as revised, prepared by HBB Design Collaborative, is hereby approved and shall be adhered to.
3. The use of the warehouse garage shall not be open to the public and only accessible to the property owner and their tenants.
4. All storage shall be clearly incidental to the conduct of the permitted use on site and limited to the storage of business items only.

5. That parking spaces shown on the site plan shall be double striped, including the provision of barrier-free parking, and all regular parking spaces shall be ten feet (10') wide by twenty feet (20') in length, as required.
6. That there shall be no outdoor storage of auto parts, scrap material, waste petroleum products, junked, unlicensed or inoperable vehicles, or other similar items in connection with this operation.
7. There shall be no storage of flammable, explosive, radioactive, hazardous, toxic, or volatile substances within the warehouse garage or upon the premises.
8. No unit designed or intended for storage purposes shall be used for operating a business or recreational activity including, but not limited to, repairs, manufacturing, assembly, personal service, hobby, retail or office.
9. That only conforming signage is approved with this petition, and any additional signage shall be separately submitted for review and approval by the Zoning Board of Appeals; and
10. That unless approved by the proper local authority, any type of exterior advertising, such as promotional flags, streamers or sponsor vehicles designed to attract the attention of passing motorists, shall be prohibited.
11. That the warehouse garage building's exterior wall design, texture and color shall match that of the existing building to the satisfaction of the Planning Director.
12. That the plan referenced in this approving resolution shall be submitted to the Inspection Department.
13. Pursuant to Section 13.13 of the Livonia Zoning Ordinance, this approval is valid for a period of one year only from the date of approval by City Council, and unless an appropriate permit is obtained, this approval shall be null and void at the expiration of said period.

Denying Resolution: That the request, to construct a 4,164-square-foot warehouse garage at the Six Mid Plaza at 29441 Six Mile Road is denied for the following reasons:

1. That the petitioner has failed to affirmatively show that the proposed use is in compliance with all of the special and general waiver use standards and requirements as set forth in 13.13 of the Livonia Zoning Ordinance.
2. That the petitioner has failed to demonstrate the need for the type of accessory storage proposed on the subject site.

3. That the petitioner has not sufficiently demonstrated that the proposed use would be compatible to and in harmony with surrounding uses in the area.
4. That the petitioner has failed to adequately demonstrate that the site has the capacity to accommodate the proposed use; and
5. That the proposed use is contrary to the goals and objectives of the Zoning Ordinance which, among other things, are intended to ensure suitability and appropriateness of uses.



- NOTE: 1. CONCRETE PAVEMENT TO BE 6" AIR-ENTRAINED CONCRETE (3500 PSI) WITH 6X6X10 WIRE MESH REINFORCEMENT.
2. SEWER PIPE TO BE VITRIFIED PIPE C-200 WITH SLIP SEAL JOINTS.
3. ALL TRENCHES WITHIN THE LIMITS OF THE PROPOSED PAVING OR 3 FT. BEYOND SHALL BE BACKFILLED WITH POROUS MATERIAL GRADE A AND POWER COMPACTED.

NOTE : LOCATION OF UNDERGROUND PUBLIC UTILITIES OBTAINED FROM
UTILITY CO. & MUNICIPAL REC. EXACT LOCATION NOT GUARANTEED

BENCH MARK

- BENCH MARK
1. W. CO. ROAD CORN. BENCH MARK N^o 110-20 BRONZE DISC. LOCATED N.E. CORNER
OF WEST SIX MILE ROAD AND MIDDE BELT ROAD
ELEVATION = 636.159
2. SITE BENCH MARK P.K. NAIL ON SOUTH SIDE OF D.E.D. POLE LOCATED
7.80 FT. N OF N.W. CORNER OF DESCRIBED PROPERTY
ELEVATION = 639.30

WE HEREBY CERTIFY THAT WE HAVE SURVEYED THE HEREON DESCRIBED
SITE AND THAT ALL MEASUREMENTS AS SHOWN ON THE PLAN ARE CORRECT
MASON L. BROWN & SON, INC..

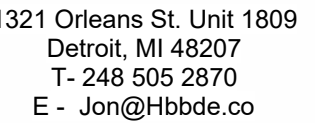
BY L. J. Brown
L. T. BROWN - REG. LAND SURVEYOR N^o 2967, & P. E. N^o. 3303

JAMES D. COMPO, INC.

SURVEY OF
PART OF THE N.E. 1/4 OF SECTION 14 (T.1S., R.9E.,)

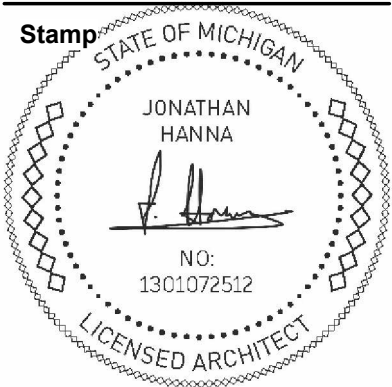
RECEIVED
MAR 28 1960
WAYNE COUNTY
MICHIGAN

4-22-68 DRAINAGE	INVOICE D.P.W.	MASON L. BROWN & SON, INC. CIVIL ENGINEERS & SURVEYORS 120 MADISON AVENUE DETROIT 26, MICHIGAN	SCALE: 1 IN. = 20 FT.	SHEET 1
11-2-67 DRAINAGE, GEN'L PLAN	DIV. OF ENGINEERING		DATE: JULY 31, 1967	OF 1 SHEETS
REV. 9-18-67 PROPOSED GRADES & BLDG SHOWN SEE ARCH. PLANS FOR PARKING SCHEME & BLDG INFO.			JOB NO. C-31356	
SEE ARCH. SPECS FOR CONST. & MATERIAL REQMTS				



Issued For	Date
Planning Submission	05/02/2024

Project Name
29441 6 Mile
Acc.Structure

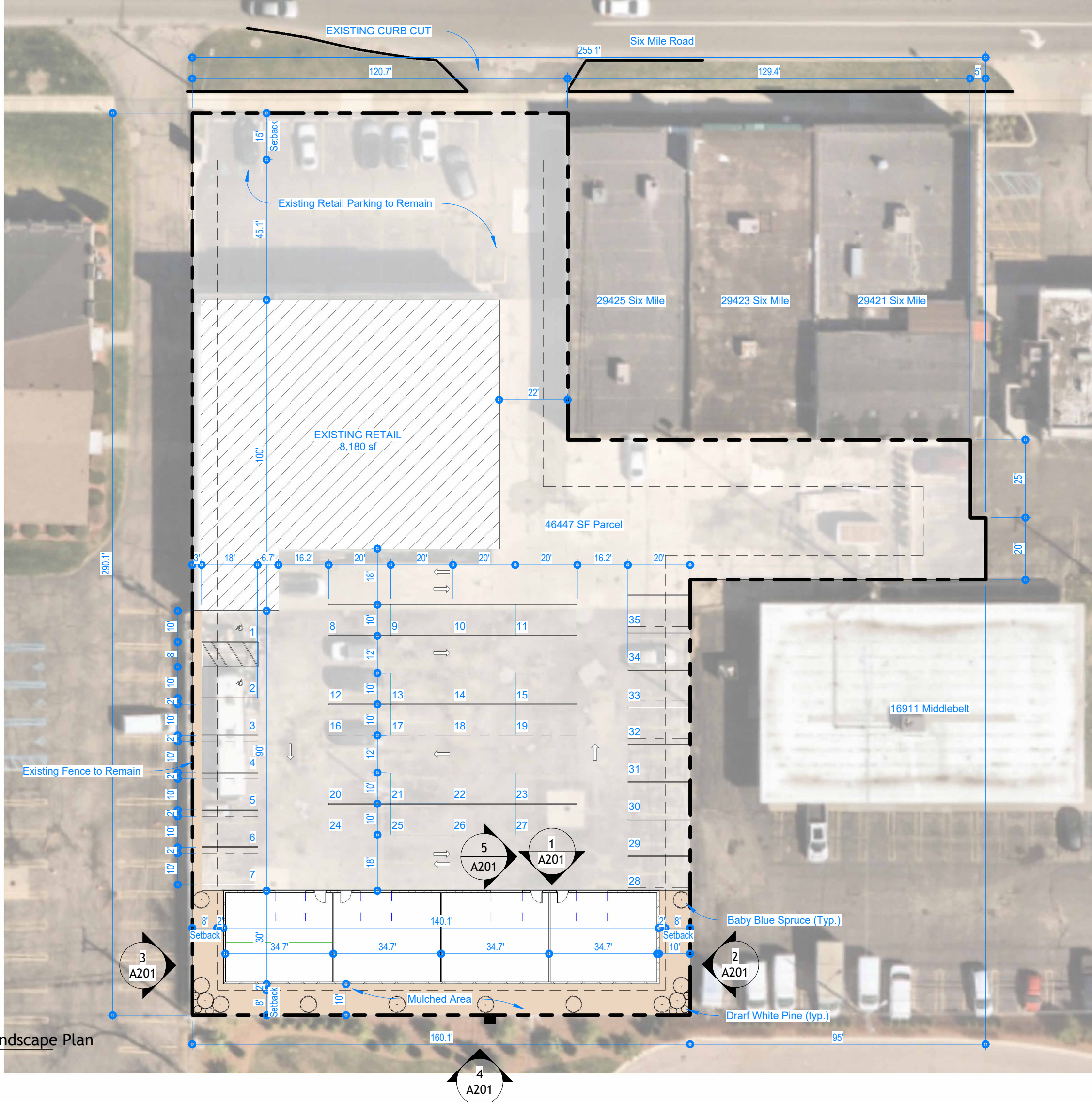


Drawing Name
Site Plan

Project #
2504

Scale
1" = 30'-0"

Sheet #
C101



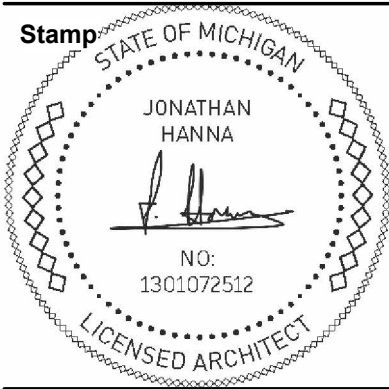
1 First Floor Building and Landscape Plan
1" = 30'-0"

Issued For	Date
Planning Submission	05/02/2025

Project Name

29441 6 Mile
Acc.Structure

Stamp



Drawing Name

Elevations and
Sections

Project #

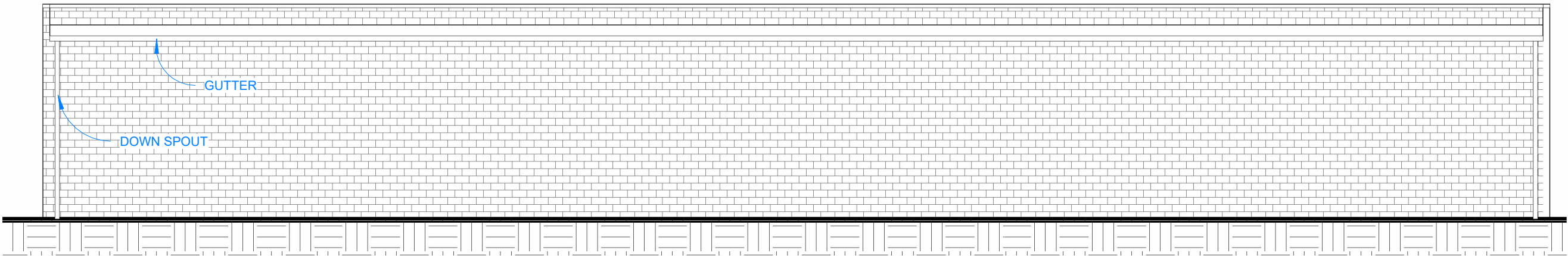
2504

Scale

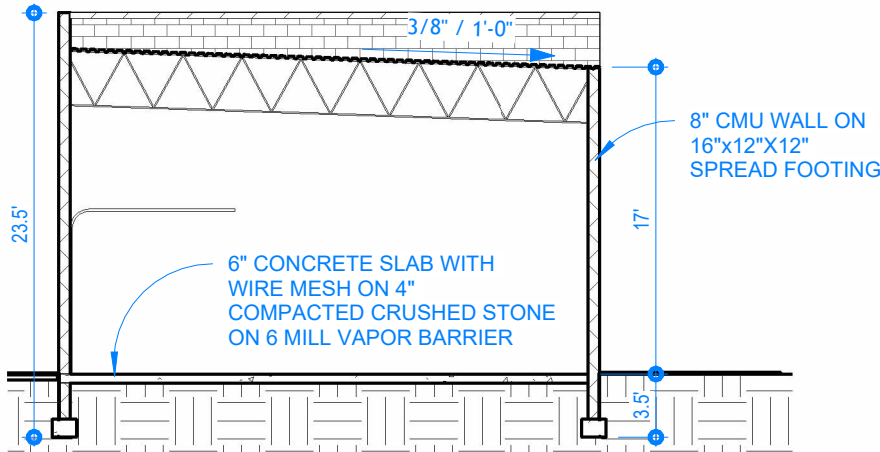
3/32" = 1'-0"

Sheet #

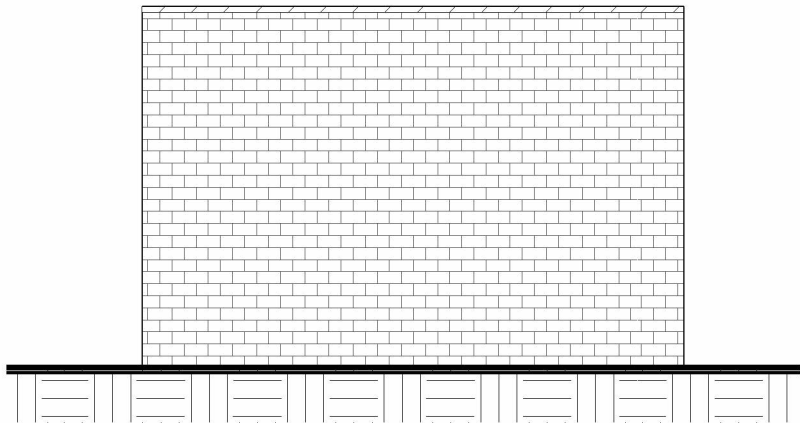
A201



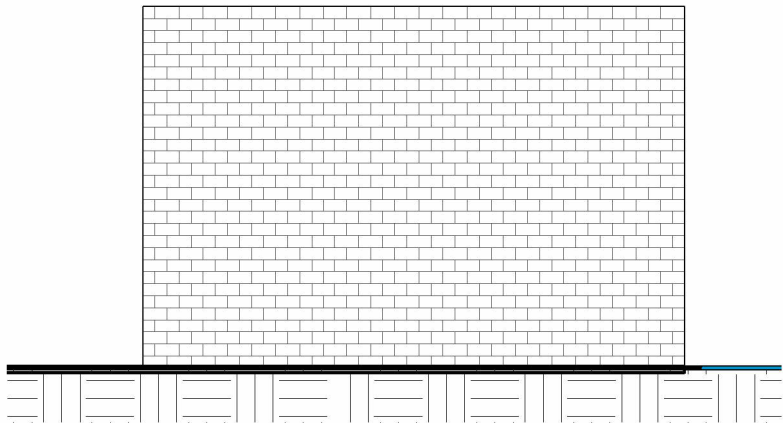
4 South Architectural Building Elevation
3/32" = 1'-0"



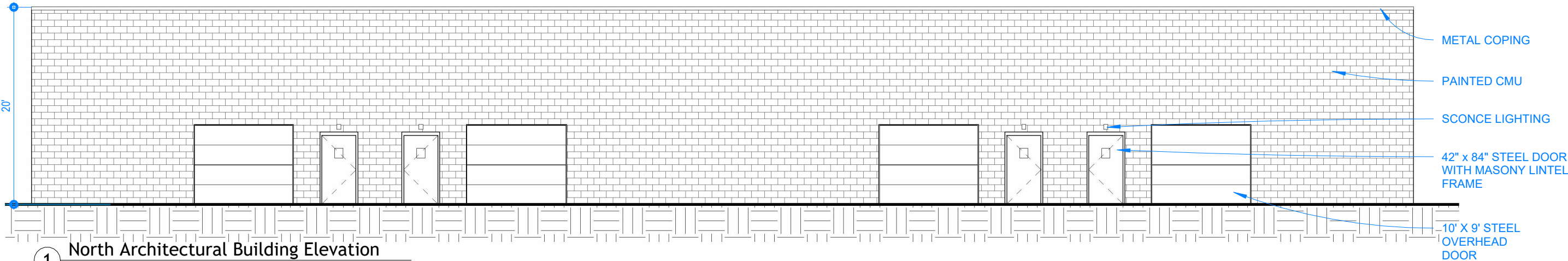
5 Cross Section
3/32" = 1'-0"



3 West Architectural Building Elevation
3/32" = 1'-0"



2 East Architectural Building Elevation
3/32" = 1'-0"



1 North Architectural Building Elevation
3/32" = 1'-0"

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

TODD J. ZILINCIK, P.E.
CITY ENGINEER

DAVID W. LEAR, P.E.
ASST. CITY ENGINEER



MAUREEN MILLER BROSNAN
MAYOR

DONALD R ROHRAFF
DIRECTOR OF PUBLIC WORKS

12973 FARMINGTON ROAD
LIVONIA, MICHIGAN 48150
(734) 466-2571
FAX: (734) 466-2195

May 21, 2025

Mr. Kristoffer Canty
Planner IV
City of Livonia

Re: Petition 2025-05-08-06 – #29441 Six Mile Road

Dear Mr. Canty:

In accordance with your request, the Engineering Division has reviewed the above referenced petition. We have no objections to the proposed project, but would like to note the following items:

1. The subject parcel is assigned the addresses of #29441 thru #29443 Six Mile Road with the address of **#29441 Six Mile Road** being assigned to the overall parcel. Should additional addresses be needed, the Owner will need to contact this Department once approvals have been obtained.
2. The existing parcel is currently serviced by public sanitary sewer and water main, as well as private storm sewer. Utility information has not been submitted with the drawings, but we do not believe there will be any adverse effects from the proposed project.
3. Per the original site plans, the layout of the proposed garages is located over the top of a private 15" storm sewer that drains the subject parcel and the parcel to the east. This storm sewer will need to be relocated outside of any proposed footings, or the garage layout will need to be revised.
4. Once approvals have been received, the Owner will need to submit Engineering drawings to this Department to determine what permits will be required.

Should you have any additional questions on this matter, please feel free to contact myself at (734) 466-2608 or the City Engineer, Mr. Todd Zilincik at (734) 466-2561. If

To: Mr. Kristoffer Canty
Re: Petition 2025-05-08-06 – 29441 Six Mile Road

May 21, 2025
Page 2

you would prefer, you can e-mail either of us at dlear@livonia.gov or tzilincik@livonia.gov.

Sincerely,



David W. Lear, P.E.
Assistant City Engineer

cc: 2025 Petition File

INSPECTION DEPARTMENT

BUILDING
HEATING
PLUMBING
ELECTRICAL
ZONING
ENVIRONMENTAL PROTECTION
ORDINANCE ENFORCEMENT



MAUREEN MILLER BROSNAN
MAYOR

JEROME A. HANNA
DIRECTOR

33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3097
(734) 466-2580
FAX: (734) 466-2095

Date: June 5, 2025

To: Kristoffer Canty

From: Jerome Hanna

RE: Petition 2025-05-08-06 – 29441 Six Mile Road

Pursuant to your request, the above-referenced Petition has been reviewed.

1. This property is currently in violation for the storage of a recreational vehicle and an unlicensed/inoperable vehicle on site.

This Department has no further objections to this Petition.

I trust this provides the requested information.

Jerome Hanna

Jerome Hanna
Director of Inspection

DEPARTMENT OF PUBLIC SAFETY
LIVONIA FIRE & RESCUE

ROBERT JENNISON
FIRE CHIEF



MAUREEN MILLER BROSNAN
MAYOR

14910 FARMINGTON ROAD
LIVONIA, MICHIGAN 48154-5419
734-466-2444
734-466-2082 fax

DATE: May 17, 2025
TO: Kristoffer Canty, Planner IV
FROM: Livonia Fire Prevention Division
SUBJECT: **Petition 2025-05-08-06, 29441 Six Mile Rd.**

This office has reviewed the site plan submitted in connection with a request to construct a commercial building on the property located at the above referenced address.

We have no objections to this proposal with the following stipulations:

- **What exactly is being stored, manufactured, or for retail in the “warehouse garage”?**

A further detailed plan review will take place when this division receives an official plan set.

Sincerely,

Brian Kukla

Brian Kukla
Fire Marshal

**DEPARTMENT OF PUBLIC SAFETY
DIVISION OF POLICE**

THOMAS GORALSKI
CHIEF OF POLICE



MAUREEN MILLER BROSAN
MAYOR

15050 Farmington Road
Livonia, Michigan 48154-5499
(734) 466-2470
FAX: (734) 261-2265

May 19th 2025

Mr. Kristoffer Canty
City of Livonia Planning Dept
33000 Civic Center Drive
Livonia, MI 48154

Re: Petitions 2025-05-08-06 – 29441 Six Mile Road

Mr. Canty,

I have reviewed the plans in connection with the petition. I have no objections to the proposals.

Please feel free to contact me, should you have any questions.

Sincerely,

FOR THE CHIEF OF POLICE,



Paul Walters, Sergeant
Traffic Bureau
(734) 466-2107

OFFICE OF THE TREASURER

SUSAN M. NASH
CITY TREASURER



33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3060
(734) 466-2245
FAX: (734) 421-7230

June 5, 2025

RE: 29441 Six Mile

Attention: planning Commissioners

All taxes have been paid on this property.

If you have any further questions, please contact me

Thank you

Susan Nash
Livonia City Treasurer



LETTER TO THE LIVONIA CITY COUNCIL

29.

Clerk
July 8, 2025

MEETING DATE

S072125

PRESENTED BY

AGENDA ITEM

BLOCK PARTY: Wafa Dinero, re: to be held Saturday, August 2, 2025, from 3:00 p.m. to 8:00 p.m., on Huff Street between Ladywood and Kingsbury Streets, with a rain date of Sunday, August 3, 2025.

BACKGROUND DETAILS

The block party will feature food trucks, music, and games. Barricades are requested for approximately 100 - 200 people.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

Approve as submitted.

ATTACHMENTS

1. S072125, Block Party-Wafa Dinero, Huff St

APPROVED BY

Doris DeMarco, Deputy Clerk

Date: July 08, 2025

**REQUEST FOR NOISE WAIVER BLOCK PARTY and/or
BARRICADING OF CITY STREETS**

Send to: Livonia City Council, c/o City Clerk, 33000 Civic Center Drive, Livonia, MI 48154-3097
or hand deliver to the City Clerk's Office at least 8 weeks prior to the planned event

PLEASE PRINT

Date of Application: 6/27/2025 Date to appear at a Council Meeting: ^{Regular 21} July 7, 2025

Name of Neighborhood Representative: Wafa Dinaro

Address (please include zip code): 15680 HUFF ST LIVONIA MI 48154

Telephone Number with area code: Home: 313 622 7038 Office: _____

Email: Wafa211@gmail.com

Please circle what is being requested – "BLOCK PARTY" and/or "STREET BARRICADING"

August 2 August 3 3-8
Date of Block Party Rain Date Start/end time of Block Party and/or Barricading
and/or Barricading End time is no later than 10:00 p.m.

Location of Block Party and/or Barricading: (Be specific. Indicate which streets and between which boundaries).

HUFF ST Btwn Kingsbury + Ladywood

Type of Event: Briefly (Describe activities planned. Music, barbecue, games, etc.)

Food Truck, music, games, etc

How many barricades are you requesting (max. 10)? enough to block Ladywood + Kingsbury

Approximate Number Attending: 100-200

Date of Council Approval/Denial: _____

Council Resolution Number: _____



LETTER TO THE LIVONIA CITY COUNCIL

30.

Engineering
June 27, 2025

MEETING DATE

R072125

PRESENTED BY

Todd Zilincik, P.E., City Engineer

AGENDA ITEM

REQUEST TO ADOPT A RESOLUTION AS REQUESTED BY WAYNE COUNTY: Engineering Division, re: agreeing to the conditions under which the Water Main Replacement Project on Schoolcraft and Merriman Roads are to be completed.

BACKGROUND DETAILS

Plans for the Water Main Replacement Project on Schoolcraft and Merriman Roads were submitted to Wayne County for their review. As part of this review process, the County is requiring a resolution be passed by the City Council agreeing to the conditions under which the Water Main Replacement Project on Schoolcraft and Merriman Roads be completed.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

In order to move forward on this project, we respectfully request that the City Council approve the attached resolution.

CITY OF LIVONIA
WAYNE COUNTY, MICHIGAN

RESOLUTION

Resolution No. _____

At a regular meeting of the City Council of the City of Livonia, Michigan, held at Livonia City Hall on the ____ day of _____ at _____ p.m., the following resolution was offered:

WHEREAS, the City of Livonia, through it's Department of Public Works (the "City") desires to complete the Water Main Replacement Project on Schoolcraft and Merriman Roads (the "Project"), Wayne County Department of Public Service (WCDPS) Review Number R25-018.

WHEREAS, the existing water main lines are situated under a main road of travel (Merriman Road) and removal would be excessively disruptive and costly as well as have a significant impact on the local residents.

WHEREAS, The City has requested an exception to the County of Wayne's (the "County")

requirement of removal; specifically, the City has requested permission to leave the current water main lines in the ground (the "current water mains") when new water mains are installed during the Project.

WHEREAS, the County is willing to grant the request in exchange for the City's agreement to adhere to specific duties related to the current water mains.

NOW THEREFORE BE IT RESOLVED, that the County shall grant the City an exception to it's requirement that unused utilities be removed in lieu of abandonment in-place;

BE IT FURTHER RESOLVED, that the County shall grant the contemplated exception to the City as related to the Project only; and

BE IT FURTHER RESOLVED, that in exchange for the exception provided, the City shall do each of the following:

1. Maintain ownership of the current water main lines.
2. Restore in a manner and condition acceptable to the County, County owned road Right-of-Way suffering damage(s) arising from the current water mains;
3. Under County permit, take action necessary to protect the public from potential injury or property damage arising from the current water mains;
4. Pressure-grout the current watermains with flowable fill material;
5. Remove, cause to be removed, or reimburse the County for removal or reconstruction, widening, or relocation of Project; and
6. Retain responsibility for incidents or claims arising from the current water mains.

Resolution _____

Motion by:

Supported by:

Roll Call Vote: _____

Yes/Approve: _____

No/Against: _____

Motion (carried/denied)

STATE OF MICHIGAN)

)SS

COUNTY OF WAYNE)

I, the undersigned, duly qualified and appointed City Clerk of the City of Livonia, Wayne County, Michigan, do hereby certify that the foregoing is a true and complete copy of proceedings taken by the City Council of the City of Livonia, at a regular meeting held on the _____ day of _____, 2025.

IN WITNESS WHEREOF, I have hereunto set my official signature, this _____ day of

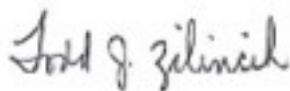
_____, 2025.

Lori L. Miller, City Clerk

ATTACHMENTS

1. City of Livonia Resolution for Merriman Road Water Main, Wayne County Permit 7.7.25
2. Exhibit_Areas of grout and abandonment

APPROVED BY



Todd Zilincik, P.E., City Engineer

Date: June 30, 2025



Don Rohraff, Director of Public Works

Date: June 30, 2025



Carter Fisher, City Attorney

Date: July 08, 2025



Maureen Miller Brosnan, Mayor

Date: July 08, 2025

CITY OF LIVONIA
WAYNE COUNTY, MICHIGAN

RESOLUTION

Resolution No. _____

At a regular meeting of the City Council of the City of Livonia, Michigan, held at Livonia City Hall on the ____ day of _____ at _____ p.m., the following resolution was offered:

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WHEREAS, the existing water main lines are situated under a main road of travel (Merriman Road) and removal would be excessively disruptive and costly as well as have a significant impact on the local residents.

WHEREAS, The City has requested an exception to the County of Wayne's (the "County") requirement of removal; specifically, the City has requested permission to leave the current water main lines in the ground (the "current water mains") when new water mains are installed during the Project.

WHEREAS, the County is willing to grant the request in exchange for the City's agreement to adhere to specific duties related to the current water mains.

NOW THEREFORE BE IT RESOLVED, that the County shall grant the City an exception to it's requirement that unused utilities be removed in lieu of abandonment in-place;

BE IT FURTHER RESOLVED, that the County shall grant the contemplated exception to the City as related to the Project only; and

BE IT FURTHER RESOLVED, that in exchange for the exception provided, the City shall do each of the following:

1. Maintain ownership of the current water main lines.

2. Restore in a manner and condition acceptable to the County, County owned road Right-of-Way suffering damage(s) arising from the current water mains;
3. Under County permit, take action necessary to protect the public from potential injury or property damage arising from the current water mains;
4. Pressure-grout the current watermains with flowable fill material;
5. Remove, cause to be removed, or reimburse the County for removal or reconstruction, widening, or relocation of Project; and
6. Retain responsibility for incidents or claims arising from the current water mains.

Resolution _____

Motion by:

Supported by:

Roll Call Vote: _____

Yes/Approve: _____

No/Against: _____

Motion (carried/denied)

STATE OF MICHIGAN)

)SS

COUNTY OF WAYNE)

I, the undersigned, duly qualified and appointed City Clerk of the City of Livonia, Wayne County, Michigan, do hereby certify that the foregoing is a true and complete copy of proceedings taken by the City Council of the City of Livonia, at a regular meeting held on the ____ day of _____, 2025.

IN WITNESS WHEREOF, I have hereunto set my official signature, this ____ day of _____, 2025.

Lori L. Miller, City Clerk



Watermain Locations to be Abandoned

Source: Data provided by OHM Advisors and other entities depending on the community/subject matter. OHM Advisors does not warrant the accuracy of the data and/or the map. This document is intended to depict the approximate spatial location of the mapped features within the Community and all use is strictly at the user's own risk.

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
Map Published: January 31, 2025

