

OFFICE OF THE COUNCIL

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EILEEN MCDONNELL
ROBIN PERSICONI
MARTHA PTASHNIK



COMMITTEE MEMBERS:

BRANDON MCCULLOUGH, Chair
EILEEN MCDONNELL, Vice Chair
MARTHA PTASHNIK, Member

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

**MEETING PACKET FOR THE
LAW AND EDUCATION COMMITTEE
MARCH 16, 2026
7:00 P.M.**

**The electronic agenda is compiled, produced and distributed
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The official documents are on file in the City Clerk's office.

LAW AND EDUCATION COMMITTEE MEETING
March 16, 2026
Livonia City Hall, Council Chambers
33000 Civic Center Drive, Livonia, MI 48154
7:00 PM

Members:

Brandon McCullough, Chair
Eileen McDonnell, Vice Chair
Martha Ptashnik, Member

AGENDA ITEM(S)

1. [The subject matter of a proposed amendment to the noise ordinance. \(CR 253-24\)](#)
2. [The subject matter of proposed ordinance amendment\(s\) to the City's Noxious Weed Ordinances to include non-enforcement language for residents who maintain native plant-based gardens and meadows in lieu of conventional lawns. \(CR 308-24\)](#)
3. [The subject matter of Charter process improvement. \(CR 36-26\)](#)
4. [The subject matter of residential property enforcement. \(CR 37-26\)](#)
5. [The subject matter of exterior lighting and luminosity from businesses. \(CR 66-26\)](#)

View meeting packet here: <https://livoniamportal.civicclerk.com/>

**THIS IS AN OPEN MEETING AND ALL
INTERESTED PARTIES ARE WELCOME TO ATTEND.**

THIS MEETING WILL BE REPORTED AT THE REGULAR MEETING OF MARCH 23, 2026

Minutes of this meeting will be available for public inspection in the City Clerk's Office
not more than eight business days following the date of the meeting.

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 if you need assistance. **Council agendas are available on the City's website – www.livonia.gov - under Government, City Council, Agendas.**



LETTER TO THE LIVONIA CITY COUNCIL

1.

Council Office
February 25, 2026

MEETING DATE

LE031626/R032326

PRESENTED BY

AGENDA ITEM

The subject matter of a proposed amendment to the noise ordinance. (CR 253-24)

BACKGROUND DETAILS

At the Regular Meeting Minutes of August 25, 2025:

Councilmember Scheel reported on the Law and Education Committee Meeting of August 18th, 2025, regarding the subject matter of a proposed amendment to the noise ordinance (CR 253-24).

A Law and Education Committee Meeting took place on August 18, 2025 to discuss this subject matter.

At the Regular Meeting of December 18, 2024:

Vice President Ptashnik reported on the subject matter of proposed amendments to the Noise Ordinance as discussed at the Law & Education Committee meeting of December 4, 2024, and indicated the matter will remain in committee. (CR 253-24)

At the Regular Meeting of August 7, 2024:

On a motion by Councilmember Toy, supported by Councilmember Jolly and unanimously adopted, it was:

#253-24 RESOLVED, that having considered a communication from Steven Johnson, 18240 Sunset St., Livonia, MI 48152, dated June 24, 2024, wherein he requests a proposed Ordinance amendment to allow noise ordinance enforcement to begin at 10:00 p.m., the Council does hereby refer this item to the Law and Education 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. R082525 LE081825 Noise Ord Report RandF
2. LE081825 Min - Noise ord
3. LE081825 LTC Prop amend to noise ord
4. LE120424 Min
5. LE101424 LTC Prop amend to noise ord
6. R080724 Noise ord amend Steven Johnson Refer to LE CR 253-24

Regular Meeting Minutes of August 25, 2025

Councilmember Scheel reported on the Law and Education Committee Meeting of August 18th, 2025, regarding the subject matter of a proposed amendment to the noise ordinance (CR253-24).

This item will remain in Committee.

<i>UNFINISHED BUSINESS ITEM 13a. (Regular Meeting of August 25, 2025)</i>

Present:	Budzinski, Scheel, Morgan, Toy, Donovic, Ptashnik
Absent:	McCullough

LAW AND EDUCATION COMMITTEE MEETING
AUGUST 18, 2025

A Law and Education Committee meeting was held on August 18, 2025, in the City Hall Council Chambers.

Committee Members Present: Lynda L. Scheel, Chair
Laura Toy, Vice Chair
Martha Ptashnik, Member

Committee Members Absent: None

**City Officials and
Others Present:** Carrie Budzinski, Councilmember
Carter Fisher, City Attorney
Jerome Hanna, Inspection Director

Additional Attendees: See attached.

1. The subject matter of a proposed amendment to the noise ordinance. (CR 253-24)

The meeting convened at 6pm, led by Council Chair Lynda L. Scheel.

A motion was made by Council Vice President Martha Ptashnik for the subject matter to remain in Committee.

An email was sent by resident Steve Johnson that will be forwarded to the Law Department.

The Committee recommends:

- For this item to remain in committee.

This item is to be placed on the **Regular Meeting Agenda of August 25, 2025**

2. The subject matter of potential ordinance amendment(s) related to cloth coverings on fences (CR 157-25).

The meeting was led by Committee Chair Lynda L. Scheel.

A motion was made by Council Vice President Martha Ptashnik for the subject matter to be removed from Committee and suggested the resident refer the concern to the Zoning Board of Appeals for a variance to have a covering on their fence.

The meeting adjourned at 6:15pm

The Committee recommends:

- For this item to be removed from committee.
- For the resident to seek a variance with the Zoning Board of Appeals.

This item is to be placed on the **Regular Meeting Agenda of August 25, 2025**

Respectfully submitted,


Lynda L. Scheel, Chair

LAW AND EDUCATION COMMITTEE MEETING
MONDAY, AUGUST 18, 2025 - 6:00PM

NAME _____

DEPT OR CONTACT INFO FOR NOTIFICATIONS*
*PERTAINING THE SUBJECT MATTER OF THIS MEETING

Jim Boyer

Denise Miller

Laurie Aubrey

Greg Ochoa

Vickie Ochoy

Jerome Hanna

Inspection

Eileen McDougall

Jenny O'Connor



LETTER TO THE LIVONIA CITY COUNCIL

1.

Council Office
July 1, 2025

MEETING DATE

LE081825/R082525

PRESENTED BY

AGENDA ITEM

The subject matter of a proposed amendment to the noise ordinance. (CR 253-24)

BACKGROUND DETAILS

At the Regular Meeting of December 18, 2024:

Vice President Ptashnik reported on the subject matter of proposed amendments to the Noise Ordinance as discussed at the Law & Education Committee meeting of December 4, 2024, and indicated the matter will remain in committee. (CR 253-24)

At the Regular Meeting of August 7, 2024:

On a motion by Councilmember Toy, supported by Councilmember Jolly and unanimously adopted, it was:

#253-24 RESOLVED, that having considered a communication from Steven Johnson, 18240 Sunset St., Livonia, MI 48152, dated June 24, 2024, wherein he requests a proposed Ordinance amendment to allow noise ordinance enforcement to begin at 10:00 p.m., the Council does hereby refer this item to the Law and Education 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. LE081325 LTC Prop amend to noise ord
2. LE120424 Min
3. LE101424 LTC Prop amend to noise ord
4. R080724 Noise ord amend Steven Johnson Refer to LE CR 253-24

APPROVED BY

LAW AND EDUCATION COMMITTEE MEETING
WEDNESDAY, DECEMBER 4, 2024

A Law and Education Committee meeting was held on Wednesday, December 4, 2024, in the City Hall Council Chambers.

Committee Members Present: Martha Ptashnik, Chair
Laura Toy, Vice Chair

Committee Members Absent: None

City Officials and Others Present: Carrie Budzinski, Councilmember
Carter Fisher, City Attorney
Doug Moore, Assistant Director of Public Works
Jerome Hanna, Inspection Director

Additional Attendees: See attached.

1. The subject matter of a proposed amendment to the noise ordinance. (CR 253-24)

The meeting convened at 7:00PM and was led by Committee Chair, Martha Ptashnik.

There were no residents in attendance to speak on this item and will remain in committee for further discussion.

The Committee recommends:

For this item to remain in committee.

This item is to be placed on the **Regular Meeting Agenda of December 18, 2024**

2. The subject matter of proposed ordinance amendment(s) to the City's Noxious Weed Ordinances to include non-enforcement language for residents who maintain native plant-based gardens and meadows in lieu of conventional lawns. (CR 307-24)

Committee Chair, Martha Ptashnik opened discussion by asking for suggestions relating to native plants and how the city can encourage green thinking while balancing the community look.

Residents offered comments both for and against native plants.

Those against native plants offered the following:

- Problems with animal excrement
- Weeds
- Flooding issues

Those for native plants offered the following|:

- They do not consider them weeds; they are just a different approach to gardens.
- Lawns are non-native
- Friends of the Rouge: "They are part of the green water storm structure to prevent flooding, which is comprised of native plants
- Still want to keep the weed ordinance, but beef up the noxious weed ordinance
- Want the ordinance to allow managed gardens
- Want a strict set-back

It was noted that although many attending residents commented on their opinions pertaining to a specific property, the point of the discussion was to discuss a plan for the entire city.

Comments were made that many communities take a managed planting approach with the following parameters:

- What can be planted
- Where it can be planted
- Education for residents is needed for this topic
- Responsibility and accountability go to the residents to follow the ordinance

City Attorney, Carter Fisher, stated there could be an update to the current ordinance.

A possible plan for the city could entail the following:

- Favorable native plant gardening
- Established set-back
- Enforcement of noxious weed ordinance
- Education for Ordinance Officers, if needed
- Natural plants are left alone, while native plants must be tended to
- Possible registration system for homeowners with native gardens that could be checked by Ordinance
- Homeowners would be obligated to follow the rules

Inspection Director, Jerome Hanna, stated there are many properties in the city and if they are maintained, there are no issues, also pointing out the following:

- Consideration of rodents becoming a problem
- Enforcement could be an issue
- Staffing for enforcement becomes an issue
- There is a need to balance responsible gardening
- Resale of homes become an issue when living near the homes with this type of gardening
- There needs to be management of the areas

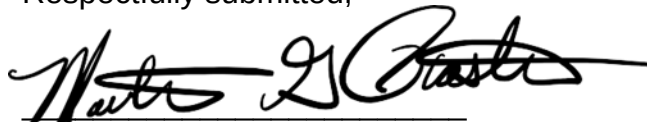
The Committee recommends:

1. For the Greenleaf Commission to propose possible regulations on native plant gardens
2. For the Law Department to draft an updated Noxious Weed ordinance upon receipt of the above-mentioned

Note: This item will remain in Committee.

This item is to be placed on the **Regular Meeting Agenda of December 18, 2024.**

Respectfully submitted,


Martha Ptashnik, Chair

LAW AND EDUCATION COMMITTEE MEETING
WEDNESDAY, DECEMBER 4, 2024, 7:00PM

NAME

DEPT OR CONTACT INFO FOR NOTIFICATIONS*
*PERTAINING TO THE SUBJECT MATTER OF THIS MEETING

Spaul Vinton
Kam Vinton
Bryan Feldman
Patrick Correy
DK Resina Newton
STEPHEN RAY
Jerome Hanna
Douglas Rossi
Betsy Calhoun
Anne Sullivan
Michael Duweke
Andrea Duweke
Derek Shaffer
David Waxer



LETTER TO THE LIVONIA CITY COUNCIL

1.

Council Office
September 25, 2024

MEETING DATE

LE101424/R110624

PRESENTED BY

AGENDA ITEM

The subject matter of a proposed amendment to the noise ordinance. (CR 253-24)

BACKGROUND DETAILS

Regular Meeting Minutes of August 7, 2024

On a motion by Councilmember Toy, supported by Councilmember Jolly and unanimously adopted, it was:

#253-24 RESOLVED, that having considered a communication from Steven Johnson, 18240 Sunset St., Livonia, MI 48152, dated June 24, 2024, wherein he requests a proposed Ordinance amendment to allow noise ordinance enforcement to begin at 10:00 p.m., the Council does hereby refer this item to the Law and Education 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. R080724 Noise ord amend Steven Johnson Refer to LE CR 253-24

APPROVED BY

Regular Meeting Minutes of August 7, 2024

On a motion by Councilmember Toy, supported by Councilmember Jolly and unanimously adopted, it was:

#253-24 RESOLVED, that having considered a communication from Steven Johnson, 18240 Sunset St., Livonia, MI 48152, dated June 24, 2024, wherein he requests a proposed Ordinance amendment to allow noise ordinance enforcement to begin at 10:00 p.m., the Council does hereby refer this item to the Law and Education Committee for its report and recommendation.

<i>CONSENT AGENDA ITEM 2 (Regular Meeting of July 15, 2024)</i>
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Motion:	Toy
Second:	Jolly
Ayes:	Budzinski, Morgan, Toy, Jolly, Ptashnik, Donovic, McCullough
Nays:	None
Absent:	None



LETTER TO THE LIVONIA CITY COUNCIL

2.

Council Office
February 5, 2026

MEETING DATE

LE031626/R032326

PRESENTED BY

Brandon McCullough Chair
Eileen McDonnell Vice Chair
Martha Ptashnik Member

AGENDA ITEM

The subject matter of proposed ordinance amendment(s) to the City's Noxious Weed Ordinances to include non-enforcement language for residents who maintain native plant based gardens and meadows in lieu of conventional lawns. (CR 308-24)

BACKGROUND DETAILS

At the Regular Meeting Minutes of December 18, 2024

Vice President Ptashnik reported on the subject matter of proposed Ordinance amendments re: Noxious weeds as discussed at the Law & Education Committee meeting of December 4, 2024, and indicated the matter will remain in committee.

At the Regular Meeting of September 23, 2024

#308-24 RESOLVED, that upon the motion by Councilmember Jim Jolly, seconded by Council Vice President Martha Ptashnik, at the Regular Meeting held September 23, 2024, the Council does hereby refer the subject matter of proposed amendment(s) to the City's Noxious Weed Ordinances to include non-enforcement language for residents who maintain native plant based gardens and meadows in lieu of conventional lawns to the Law and Education Committee for further discussion 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. LE031626 LTC Prop amend to noxious weeds
2. R121824 LE Committee report - Prop amend for native weeds
3. R121824 New Data Item 13b (Noxious Weeds) Recd 12-9-24
4. R092324 Noxious Weed Ordinance to LE Committee CR 308-24)
5. LE120424 Item 2 - Noxious Weed Ord New Data 1 - Recd 12-2-24
6. LE120424 Item 2 - Noxious Weed Ord New Data 2 - Recd 12-2-24

APPROVED BY

Regular Meeting Minutes of December 18, 2024

An email communication received from the Livonia Managed Native Planting Team, dated December 9, 2024, re: proposed Ordinance amendments re: Noxious weeds, was received and placed on file for the information of the Council.

Vice President Ptashnik reported on the subject matter of proposed Ordinance amendments re: Noxious weeds as discussed at the Law & Education Committee meeting of December 4, 2024, and indicated the matter will remain in committee. (CR 208-24)

Karen Vrtachnik, 15454 Doris, spoke regarding vegetation growing in neighboring yards within her neighborhood which attract bees, birds, rodents and deer. Ms. Vrtachnik stated she was concerned about how this may affect her home's resale value in the future and asked Council to take this into consideration.

Mike Shesterkin, 38257 Donald, thanked Council and residents for taking up this subject matter and stated he was grateful to see the community look at sustainability, which he feels is very important. Mr. Shesterkin stated a "landscaped" lawn is diverse and subjective and encouraged Council to come up with an Ordinance this is flexible, keeping in mind perception of what a lawn should look like is quite different.

<i>UNFINISHED BUSINESS ITEM 13b. (Regular Meeting of December 18, 2024)</i>

Present:	Ptashnik, Budzinski, Morgan, Donovic and McCullough
Absent:	Toy

From: [Rosina N](#)
To: [Ptashnik, Martha](#); [Toy, Laura](#)
Cc: [McCullough, Brandon](#); [Donovic, Rob](#); [Morgan, Scott](#); [Budzinski, Carrie](#); [Jolly, Jim](#); [Mayor Maureen Miller Brosnan](#); [Kasprowicz, Sara](#); [Rosina N](#); [Bob Hauser](#); [Evan Rosin](#); [Cyndi Ross](#); [David Waxer ICE](#); [Anne Sarazin](#)
Subject: Resolution #308-24 - Livonia Noxious Weed Ordinance - LE Committee
Date: Monday, December 9, 2024 12:45:59 PM

Dear City of Livonia Law and Education Committee:

Vice President Martha Ptashnik, Chair

Laura M. Toy, Vice Chair

Jim Jolly, Member

cc: Maureen Miller Brosnan, Mayor
Brandon McCullough, Council President
Carrie Budzinski, Council Member
Rob Gjonaj Donovic, Council Member
Scott Morgan, Council Member
Sara Kasprowicz, Program Supervisor

Thank you for the opportunity for us to share at the December 4th LE Committee meeting regarding native plantings in Livonia. Thank you also for your kind and thoughtful consideration of all attendees' views.

We want to emphasize that we are recommending a brief edit to our current *Noxious Weed Ordinance* that includes

- adding a simple definition of a *Managed Native Planting (MNP)*; and
- adding exceptions in the ordinance. Wherever the ordinance indicates "'a height of nine (9) inches," we will add "except in *Managed Native Plantings (MNP)*."

Livonia would not need to write a new ordinance. This would not cost the City of Livonia any additional money. It will not require extensive study, nor additional staffing. A simple edit to our existing Livonia *Noxious Weeds and Refuse* ordinance would suffice.

Below is our feedback regarding the concerns voiced during the meeting by our community, our Livonia Inspection Department, and the Greenleaf

Commission.

- When we refer to landscapes that include native plants, we are referring to ***Managed Native Planting (MNP)***. This is a more accurate term than *Managed Natural Landscape*. As Mr. Hanna pointed out, some residents who are not familiar with the true definition of “native plant” are indeed using the term “natural” to allow noxious weeds to grow.
- In adding language for *Managed Native Planting (MNP)* to our existing *Noxious Weeds* ordinance, we should not focus on aesthetics, because “beauty is in the eye of the beholder.” Aesthetics is a personal, subjective opinion. Some residents view a turf grass lawn as park-like and aesthetically beautiful, whereas some residents view a landscape that includes Michigan native plants in a beneficial habitat design to be aesthetically beautiful. Aesthetics cannot be legislated.
- With the added *Managed Native Planting* language, we support the Livonia Inspection department in upholding our *Noxious Weed Ordinance*, focusing on noxious weed species as defined by the following professional resources
 - [Michigan.gov Invasive Species List](#)
 - [MDARD Prohibited and Restricted Weeds](#)
 - [Midwest Invasive Species Information Network](#)
- Different sizes of properties should dictate the different types of *Managed Native Planting (MNP)* allowed. The *MNP* for lower acreage residential properties may include native plants in smaller pollinator

and butterfly gardens. Larger properties (e.g. Zoned RUF) may include *MNPs* such as a native meadow design. Larger properties have a greater opportunity to

- reduce the square footage of commercially-maintained lawn; and
- solve more problems for their neighbors and the City of Livonia by utilizing Green Stormwater Infrastructure (e.g. meadows, rain gardens, tree plantings, etc.).
- One of the goals for the City of Livonia, in relation to our watershed management plan and the MS4 Stormwater permit under the larger NPDES permit, is to educate Livonia residents about the importance of using native plants. The purpose of this education is for residents to help manage stormwater in their own property, and therefore to reduce the *quantity* of stormwater runoff and to improve the *quality* of stormwater runoff flowing into our Rouge River. With the support of the City of Livonia, *Friends of the Rouge* and *Wild Ones* can facilitate this public education.
- The increase in the deer population, and the resulting damage to our landscapes, is a common issue in Livonia and all over Michigan, and unrelated to *Managed Native Plantings*.
- Rats and raccoons are most attracted to human food waste and unsecured structures. These and other pests are also a common problem that is unrelated to *Managed Native Plantings*.
- The primary reasons that residents across the country want to install *Managed Native Plantings* in their own properties are

- To reduce local flooding;
- To mitigate the amount of polluted water entering our local watershed, such as stormwater runoff containing fertilizers from landscapes; road salt, oil, and gas from pavements; etc. For Livonia residents, this means our portion of the Rouge River Watershed.
- To reduce or eliminate the need for lawnmowers, commercial fertilizers, and pesticides that are common in a conventionally-maintained lawn; and
- To provide crucial habitat benefitting songbirds, butterflies and other pollinators Planting local native plant species in our yard is what Doug Tallamy calls Homegrown National Parks.
- A revised *Livonia Noxious Weeds and Refuse* ordinance would include
 - appropriate *Cues to Care*, such as areas of manicured lawn/groundcover used as borders with neighbors and property boundaries; and
 - commonsense landscaping guidelines, such as choosing shorter plants along the intersection of driveways and roadways in order to keep a safe and clear line of sight for all Livonia drivers.

Let's make this easy. It does not need to be a complex or prolonged process. There is no need for the City to incur any additional costs. It doesn't require extensive study to implement. There are municipal precedents that can be used as guidelines, and there are Livonia residents and local organizations available as resources to streamline this process.

As qualified professionals in the industry, members of your *Managed Native Plantings Team* are willing and able to write a draft definition of a *Managed Native Planting* for consideration by the Livonia Law and Education Committee. Please let us know how we can further participate in the next steps of the process.

For some of us, this is the first time we have participated in our municipal government. We are grateful for the thoughtful and considerate attention that you have given to this issue.

In appreciation for your service,

Your Livonia *Managed Native Planting Team*,

Bob Hauser, resident and *Wayne County Wild Ones* vice president

Rosina Newton, resident and *Friends of the Rouge* staff

Evan Rosin, Wayne Co. Conservation District

Cyndi Ross, resident and *Friends of the Rouge* manager

Annie Sarazin, resident

David Waxer, resident

On a motion by Councilmember Jolly, supported by Vice President Ptashnik and unanimously adopted, it was:

#308-24 RESOLVED, that upon the motion by Councilmember Jim Jolly, seconded by Council Vice President Martha Ptashnik, at the Regular Meeting held September 23, 2024, the Council does hereby refer the subject matter of proposed amendment(s) to the City's Noxious Weed Ordinances to include non-enforcement language for residents who maintain native plant based gardens and meadows in lieu of conventional lawns to the Law and Education Committee for further discussion and recommendation.

<i>RESOLUTION REQUESTED BY COUNCIL (Regular Meeting of September 23, 2024)</i>
--

Motion:	Jolly
Second:	Ptashnik
Present:	Jolly, Ptashnik, Donovic, Budzinski, Morgan, Toy, McCullough0
Absent:	None

From: [Rosina N](#)
To: [McCullough, Brandon](#); [Budzinski, Carrie](#); [Donovic, Rob](#); [Morgan, Scott](#); [Ptashnik, Martha](#); [Jolly, Jim](#); [Toy, Laura](#); [Kasprowicz, Sara](#)
Cc: [Rosina N](#); [Bob Hauser](#); [Evan Rosin](#); [Cyndi Ross](#); [David Waxer ICE](#); [Anne Sarazin](#)
Subject: Resolution #308-24, Proposed amendment(s) to the City's Noxious Weed Ordinances, Livonia Law & Education Committee
Date: Monday, December 2, 2024 8:03:07 AM
Attachments: [LE Committee - Roadmap to a Native Ordinance.pptx.pdf](#)

Dear Livonia City Council:

President Brandon McCullough, Members Carrie Budzinski, Rob Gjonaj Donovic, and Scott Morgan

As Livonia citizens, thank you for the opportunity to present our views at the September 23rd City Council meeting. We further appreciate your thoughtful consideration of our proposal to amend the City's Noxious Weed Ordinances, and for referring it to the Law and Education Committee.

We are sharing the following information with the Law and Education Committee this Wednesday, and we want to share with you all as well.

Enclosed please find materials for the December 4th meeting of the Law and Education Committee, in support of Resolution #308-24, the proposed amendment(s) to the City's Noxious Weed Ordinances.

Please note that the attached document, ***LE Committee - Roadmap to a Native Ordinance***, is an overview of our recommendations. We welcome the opportunity to share this brief presentation during the meeting.

The remaining documents, sent separately, are supportive resource documents for the Law and Education Committee and the City of Livonia, expanding on the recommendations contained in the presentation. Also please find live links within the *Roadmap to a Native Ordinance* that lead to websites with further information.

Attachments:

-

LE Committee - Roadmap to a Native Ordinance

- Livonia MS4 Stormwater Discharge Application 2016
- GSI Impact on Property Values
- ASLA - 5 Reasons Native Plants Help You Save Money and the Planet
- NCS - Letter of Support
- MSU - GSI - Building Sustainable and Resilient Communities
- Michigan prohibited and restricted weeds
- Native landscaping ordinance - Minnesota examples
- Native landscaping ordinance - United States examples
- Native landscaping ordinance - Wayne County Wild Ones sample

Thank you for this opportunity to present a simple solution benefiting the City of Livonia, Livonia residents, our Rouge River, and our environment.

Sincerely,
Livonia Native Landscape Ordinance Team

Rosina Newton, resident and *Friends of the Rouge* staff

Bob Hauser, resident and *Wayne County Wild Ones* vice president

Evan Rosin, Wayne Co. Conservation District, Board of Directors

Cyndi Ross, resident and *Friends of the Rouge* manager

Annie Sarazin, resident

David Waxer, resident

A Roadmap to



A City of Livonia Native Landscaping Ordinance

***Why* should Livonia adopt a Native Landscaping Ordinance?**



Native landscaping helps Livonia meet our stormwater permit requirements

“Everything you do on the land
affects the water quality in the
Rouge.”

Annette DeMaria
Alliance of Rouge Communities (ARC)

City of Livonia



MS4 Stormwater
Discharge Application

Permit No: MIG610015

April 1, 2016

Submitted by:

The City of Livonia
12973 Farmington Road
Livonia, MI. 48150
734.466.2655

In Collaboration with:



Green Stormwater Infrastructure (GSI), including native landscaping, is proven to solve municipal problems such as flooding

“Green stormwater infrastructure (GSI) is (used) to sustainably manage stormwater in the United States. Aside from mitigating floods, it provides other ecosystem services such as improved water quality, scenic beauty, and an increase in property values of surrounding houses, among others.”

<https://www.sciencedirect.com/science/article/pii/S2210670721001062>



GSI and native landscaping increase property values

“When you just see bare flat turf and nothing to create a transition between yard or pavement and home, it just doesn’t show as well. (Native plant landscaping is) such a tremendous asset, not a deterrent.”

Kristi Neidhardt, top-selling real estate agent



SUMMARY

Green stormwater infrastructure (GSI), such as rain gardens, swales and porous pavement allows us to use natural systems to control stormwater and urban flooding. GSI brings dozens of benefits to neighborhoods that traditional “gray” stormwater infrastructure does not, including places to play, habitats for other species, and cooling on hot days.

This report shows that GSI also adds value to homes. The Center for Neighborhood Technology (CNT) worked with SB Friedman Development Advisors to model the impact of GSI installations, such as rain gardens and swales, on property sales data in two cities and found statistically significant higher sales prices of homes near GSI. These findings add to a growing body of research that shows that nature-based solutions to stormwater management provide many benefits in addition to flood control.



photo credit: NACTO

What we found:

- **Doubling the square footage of rain gardens, swales, planters, or pervious pavement near a home is associated with a 0.28% to 0.78% higher home sale value, on average.¹**

What this means:

- A homeowner with a \$250,000 home could see an increase of \$700 to \$1,950 in home sales value with a doubling of nearby GSI.

Native landscaping requires less maintenance and less money



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Landscape Architects

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Conference and Events

Become a Landscape Architect

Join

Learn

Residential Design

5 REASONS NATIVE PLANTS HELP YOU SAVE MONEY AND THE PLANET



2008 ASLA Honor Award, Residential Design Category, Beach House, Dirtworks / image: Dirtworks

1. Native plants are healthier and stronger. Plants native to an area are more likely to establish quickly and will naturally be hardy and healthy. Native plants have evolved over thousands of years, learning to thrive in particular areas—they grow in harmony with the environment, the soil, the water supply, the varying weather throughout all the seasons, and other native companions. Their root systems are deep, sometimes up to 15 feet, and acclimated to the soil, be it clay or sand, and average precipitation, whether it is high or low. Their stems and leaves can handle harsh sun or buffeting winds, for example, if that is the nature of the local environment. They are also part of a larger natural ecosystem.

Native landscaping is the current and future trend in horticulture

Gardeners

- are learning more about native & ecological gardening
- want less maintenance
- want to save money

Forbes

FORBES > SMALL BUSINESS

Gardening's Hottest Trend Is Here: The Big Shift To Native Plants And What It Means For Your Business

**Tammy Sons** Forbes Councils Member
Forbes Business Council **COUNCIL POST** | Membership (Fee-Based)

Feb 3, 2022, 10:00am EST

Updated Feb 9, 2022, 04:18am EST

Homeowners are tired of having hybrids that require care that includes hiring a lawn service or spending countless hours on their hands and knees. As homeowners realize how low-maintenance native plants are, they set all the herbicides, insecticides and pesticides aside to enjoy the ease of native plants.

This season, the popularity of native plants is off the charts. Keep reading to find out how you can prepare your nursery or gardening business for this growing trend.

Professional native landscaping businesses would benefit from a pro-native business climate in Livonia

John & Liz DeLisle

Principal Ecologist & Owner

Natural Community Services

<http://naturalcommunityservices.com/>



Cell:

248.672.7611

Email:

info@naturalcommunityservices.com

LETTER OF SUPPORT FOR FRIENDS OF THE ROUGE TO CITY OF LIVONIA RE: NATIVE PLANTS/ORDINANCES

Dear Members of the City Council,

I am writing on behalf of Natural Community Services (NCS) to express our strong support for the efforts of Friends of the Rouge and WildOnes to amend the City of Livonia ordinances to allow for native landscaping, rain gardens, the management of invasive plants, and the removal of barriers to green infrastructure implementation.

As an organization dedicated to ecological restoration and sustainable landscape design, we recognize the significant environmental, economic, and social benefits that these practices can bring to our community. Native landscaping and rain gardens not only enhance the aesthetic appeal of our neighborhoods but also play a crucial role in improving water quality, reducing stormwater runoff, and providing habitat for local wildlife.

The management of invasive plants is essential to preserving the integrity of our native ecosystems. Invasive species can outcompete native plants, leading to a loss of biodiversity and negatively impacting the health of our natural areas. By allowing for the proactive management of these species, we can protect and restore the ecological balance within our community.

Furthermore, removing barriers to green infrastructure implementation is vital for promoting sustainable development and resilience against climate change. Green infrastructure, such as permeable pavements, green roofs, and bioswales, helps to manage stormwater, reduce urban heat islands, and improve air quality. These practices are not only environmentally beneficial but also cost-effective in the long term.

We commend Friends of the Rouge and WildOnes for their dedication to these important issues and their efforts to create a more sustainable and resilient Livonia. We urge the City Council to support these proposed ordinance changes and to recognize the value of integrating native landscaping, rain gardens, invasive plant management, and green infrastructure into our city's planning and development processes.

Thank you for your consideration.

Sincerely,

John DeLisle

City of Livonia residents choosing to garden ecologically in their own yard would not be punished with citations

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Annie's Story

By: Rosina Newton, FOTR Restoration Assistant and Volunteer Coordinator

This is a story about my neighbor, Annie, but it could be about you or any Friend of the Rouge who wants to make a difference in their own corner of our world.

Annie hired a professional ecological landscaper to install beautiful Michigan native plants in her backyard to solve a flooding problem. It worked! This beautiful meadow now reduces flooding in her yard and her neighbors' and is a haven for pollinators and birds, as you can imagine.

However, this summer my friend received a citation from the City of Livonia that her vibrant meadow had to be cut down because of the "noxious weed ordinance," Section 8.40.050. The Livonia ordinance does not recognize the difference between actual noxious weeds, as defined by the Michigan Agriculture Department, and native plants. Many municipal ordinances across the country were written before there was widespread awareness of the benefits of native plant landscaping, and residents are working with their local governments to amend ordinances to allow more ecological landscaping.

Native Landscaping FAQs

Q: Aren't native landscapes messy looking? Isn't this just an excuse to be a bad neighbor?

A: No, a native plant ordinance provides guardrails with setback requirements and other “cues to care.”

Q: Don't native landscapes lower property values?

A: Patrick McVeigh, Michigan realtor, says this isn't true. A well-designed native landscape can increase property value!

Q: Aren't native plants too hard to maintain?

A: Just like all plants, natives need care until they become established. Once established, native plants require less water, and little or no fertilizer, insecticide, or herbicide because they are adapted to the conditions in Michigan.

Q: To make a difference, don't I have to plant a whole field of native plants?

A: Even one native plant is an ecosystem! A small native garden can provide habitat for songbirds and pollinators such as butterflies.



Photo Credit: Cindy O., Plymouth Resident

Native Landscaping Case Study in Livonia



BEFORE:

A sterile landscape without ecological value



AFTER:

A beautiful, vibrant native landscape

Livonia Inspection Department would be freed to focus on

- Dilapidated buildings
 - as mentioned by City Council member Rob Gjonaj Donovic on 9/23/24
- Existing noxious weeds
 - Private property
 - Commercial property
 - City property



Noxious weeds in a prominent Livonia location



Canadian Thistle, going to seed in a neighborhood yard

Livonia is already a *Tree City USA* since 1998

By promoting native plant ordinances, Livonia could gain further recognition



Livonia could gain further recognition

- Through National Wildlife Federation
 - Become a **Community Wildlife Habitat**
 - Take the **Mayors Monarch Pledge**
 - Create **Community Spaces**
- Through the Xerces Society
 - Be a **Bee City USA**
- Through MonarchWatch.org
 - Create a registered **Monarch Waystation**

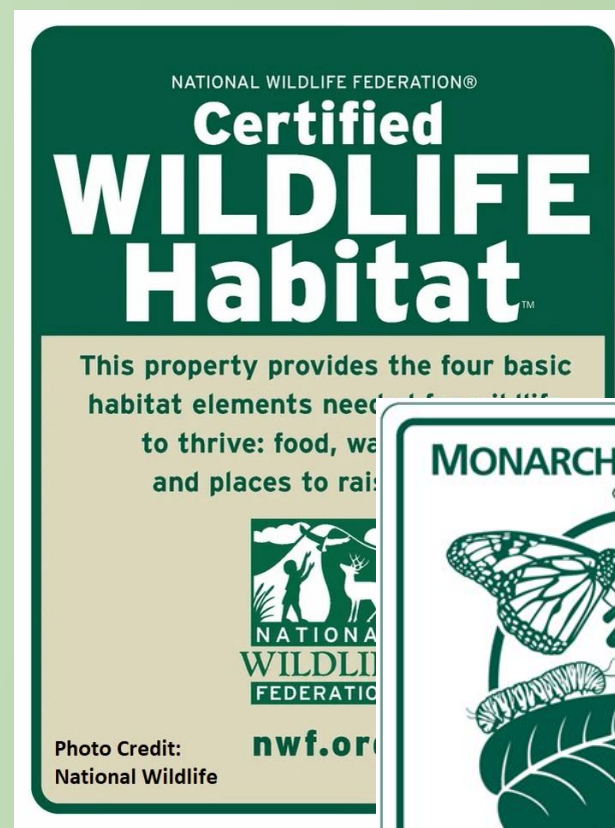


Photo Credit: Bee City USA

Livonia could be part of the solution

Native landscaping reduces pollution in our Rouge River watershed

Common pollutants

- *PFAS –the “forever chemical”*
- *Sewage overflows*
- *Fertilizer & pesticide runoff*
- *Street runoff*
 - *De-icing materials*
 - *Oil, fuel, transmission fluid, etc*

Green stormwater infrastructure: Building sustainable and resilient communities

Ruth Kline-Robach and Paige Filice, Michigan State University Extension - July 28, 2023

[Share](#) [Tweet](#) [Save](#) [Share](#) [Print](#) [Email](#)

Green stormwater infrastructure practices can protect waterways by reducing pollutants.



FERNDALE

[HOME](#) [GOVERNMENT](#) [RESIDENTS](#) [VISITORS](#)

RESOURCE:

Planned Natural Landscaping

Planned Natural Landscaping Benefits

MANAGES STORMWATER

Native landscapes provide better water infiltration by preventing stormwater from entering the City's combined water system. During heavy rains, stormwater enters the system and can combine with sanitary waste, which results in combined sewer water that can overflow downstream. This contaminates the water system, resulting in health risks to residents, infrastructure, and natural habitats. Green stormwater infrastructure provides better water infiltration to help prevent this. You can improve your stormwater management by



Huron
River
Watershed
Council

[Our Watershed](#) [What We Do](#)

Landscaping

[Take Action](#) [At Home](#) [Landscaping](#)

Discover the power of plants. Landscaping features like rain gardens, native plants, and trees catch and soak in polluted stormwater runoff.

Plants and trees that are native to Michigan boost your landscape's ability to absorb and infiltrate polluted runoff. Their deep, thirsty roots are much better at keeping water clean than the shallow roots of turf grass. Using native plants and trees in a rain garden amplifies their clean-water power even more.

Livonia could be part of the solution

- 665 species of Michigan plants, birds, mammals, reptiles, amphibians, fish, insects, & mollusks are known to be ***threatened, endangered, & special concern***.
- In Michigan, 46 plants & 10 animals are currently ***extinct or extirpated***.
(Michigan Natural Features Inventory 2006).



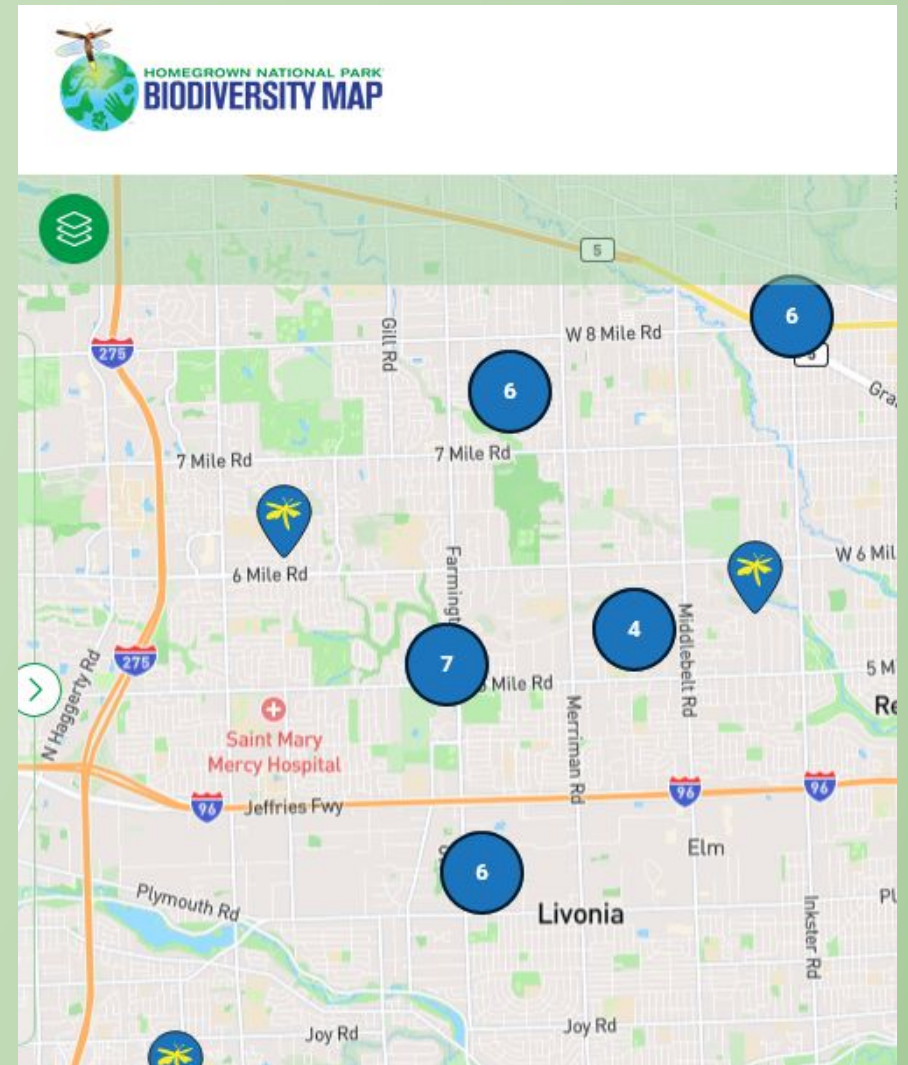
Photo: David Silsbee

Livonia could be part of the solution

“In the past, we have asked one thing of our gardens: that they be pretty. Now they have to support life, sequester carbon, feed pollinators, and manage water.”

“We can each make a measurable difference almost immediately.”

Doug Tallamy, author and co-founder of Homegrown National Parks



Livonia residents who have listed their native landscape on Doug Tallamy's Homegrown National Parks map

Livonia could be part of the solution by allowing residents to enjoy native/habitat landscaping in their own yards



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[FREQUENTLY ASKED QUESTIONS](#)

[ECOSYSTEMS](#)

Why do animals and plants become endangered?

Although extinctions occur naturally, the current rate of plant and animal extinctions is much higher than the natural or historical rates. Habitat loss is the primary cause of higher extinction rates. Other causes include habitat changes, over-exploitation of wildlife for commercial purposes, the introduction of harmful nonnative species, pollution, and the spread of diseases.

How can Livonia adopt a Native Landscaping Ordinance?

Livonia would not need to rewrite the entire Noxious Weeds and Refuse Ordinance!



Adopting a Livonia Native Landscaping Ordinance

Step 1 - Adopt a version of the sample *Wild Ones Native Planting Ordinance*, which

- defines a ***Managed Natural Landscape (MNL)***
- establishes the setback requirement

MUNICIPALITY OF _____

ORDINANCE NO. 2023-

IN MUNICIPAL _____, 2023

NATIVE PLANTING ORDINANCE

Sec. 1. TITLE.

This chapter shall be known and may be cited as "Municipality of _____ Landscape Ordinance Promoting the Use of Appropriate Native Vegetation."

Sec. 9. MANAGED NATURAL LANDSCAPE.

An owner, authorized agent, or authorized occupant of any privately owned lands or premises may, consistent with this subsection and all other applicable laws, statutes, rules, and ordinances, install and maintain a managed natural landscape.

Managed Natural Landscapes shall not include any plant identified by any applicable government agency as a noxious weed. Managed natural landscapes may include plants and grasses of any height and which have gone to seed. Managed natural landscapes shall not include plants that, due to location and/or manner of growth, constitute a hazard to the public.

Sec. 10. MANAGED LANDSCAPE SET BACK.

The managed landscape must be set back from property lines by at least _____ feet. The setback is not required where the defined landscape area abuts another similar private or public landscape area, a wetland, pond, lake, or stream or if a fully opaque fence at least four feet in height is installed along the lot line adjoining the planned landscape area.

Adopting a Livonia Native Landscaping Ordinance

Step 2 - Make a few line edits
to add references to **Managed
Natural Landscapes**,
wherever necessary

8.40.050 - Removal of other weeds, grass, brush, deleterious, unhealthful growths and refuse and debris required.

A.

It is unlawful for the owner or occupant, or any person having control or management of any lot, place, area or parcel of land within the city, to permit or allow the presence thereon or in the unpaved portion of any public right-of-way immediately adjacent thereto of weeds, grass, brush or deleterious, unhealthful growths of any species or variety exceeding a height of nine (9) inches above ground level (except in a "Managed Natural Landscape" (as defined in Sec. 3(h) of Ordinance No. ... , the "Native Planting Ordinance") where native plants in excess of 9 inches are permitted), or any refuse or debris, and the same are declared to be a public nuisance. It shall be the duty of every owner or occupant, or every person in charge of such property upon which any of the abovementioned weeds, grass, brush, deleterious, unhealthful growths or refuse or debris are permitted to remain, to cause the same to be cut down, destroyed or removed, in the same manner and within the time provided in Section [8.40.040](#), or as more often as may be necessary.

B.

Adopting a Livonia Native Landscaping Ordinance

Step 3 - To define noxious weeds, refer to the species listed here

- [Michigan.gov Invasive Species List](#)
- [MDARD Prohibited and Restricted Weeds](#)
- [Midwest Invasive Species Information Network](#)

 Michigan Invasive Species

Identify and ReportTake ActionLawsState ResponseEducation & OutreachMeet

Invasive Species: Plants

 > Identify and Report > Plants

Invasive Plants



Aquatic



Prohibited and Restricted Weeds

Michigan laws regulate the possession and sale of certain plant species which are considered undesirable from agricultural as well as environmental viewpoints. These unwanted species are listed below according to the applicable laws and regulations.

A. Prohibited Plant Species (Natural Resources and Environmental Protection Act Part 413 (Act 451 of 1994, as amended))

Any of the following plants, fragments, seeds or a hybrid or genetically engineered variant thereof, including plants labeled under an older scientific name (synonym):

Scientific Name
Cabomba caroliniana
Cylindrospermopsis
Egeria densa (synonym)

 **MISIN** Midwest Invasive Species Information Network

HOMEABOUTREPORTEXPLOREPROJECTSSTATESTOOLSHelp

Canada thistle (*Cirsium arvense*)

Common Names: Creeping thistle, Field thistle, Californian thistle

Description: This species is listed under Regulation No. 715 - Seed Law Implementation as a prohibited noxious weed by the Michigan Department of Agriculture. Canada thistle was introduced to North America from Europe in the early 1600s.

Habit: Perennial, rhizomatous thistle ranging in height from 0.6-1.5 m (2-5 ft), forms large monocultures.



**Westland has
adopted a very
simple native
landscaping
ordinance**

ARTICLE IV. - WEEDS[1]

Sec. 106-91. - Definitions.

Noxious weeds means all species identified in the State of Michigan's noxious weeds definition, and the restricted noxious weed list available from the Michigan Department of Agriculture and Rural Development, as established under Act 329 of 1965; provided however, this term shall not include native prairie and plant habitats cultivated and maintained on private property by the property owner.

Other neighboring communities have also adopted native plant support or ordinances

- Ferndale
- Southfield
- Warren
- State of Minnesota

ARTICLE III. - PLANNED NATURAL LANDSCAPING AREA^[2]

State Law reference— MCL 117.4q.

Footnotes:

--- (2) ---

Cross reference— Garbage and rubbish, Ch. 16; International Property Maintenance Code sections 302, 308, and 309 as a maintenance generally, Ch. 28; and Zoning generally, Appendix A.

Sec. 38-19. - Purpose.

The purpose of this article is to encourage property owners to plant and planting **native** plants reduces greenhouse gasses and pollution, reduces water usage, saves money on watering, reduces soil erosion, decreases the need for pesticides, and the potential of sewer overflow and basement flooding.

(Ord. No. 80-745, 11-22-16)

Sec. 38-20. - Goals.

The city will strive to plant **native** plants, greatly reduce mowed turf grass, and encourage property owners to do the same. The city will work toward creating a thirty (30) percent native plant landscape.

(Ord. No. 80-745, 11-22-16)

Sec. 38-21. - Planned natural landscaping area requirements.

(a) Property

(1) Regi

(2) P

Focus on New Laws: Managed Natural and Native Landscaping Permitted in Cities



July 7, 2023

Cities must now allow managed natural landscaping to be installed and maintained on all parcels.

Effective July 1, 2023, municipalities are required to allow property owners and occupants to install and maintain managed natural landscapes.

Chapter 62 (HF 1830*/SF 1426) is the omnibus state government finance bill that was signed into law on May 24, 2023. Article 3, section 9 creates a new provision of law as Minnesota Statutes, section 412.925:

- Subpoint (a) requires all statutory cities or home rule charter cities to allow an owner, authorized agent, or authorized occupant of any privately owned lands or premises to install and maintain a managed natural landscape and defines a number of associated.

Managed natural landscape defined

"Managed natural landscape" is defined as a planned, intentional, and maintained planting of native or nonnative grasses, wildflowers, forbs, ferns, shrubs, or trees, including but not limited to rain gardens, meadow vegetation, and ornamental plants. Managed natural landscapes does not include turf-grass lawns left unattended for the purpose of returning to a natural state.

The bill permits landowners to maintain managed natural landscapes in excess of 8 inches in height. However, weeds or grasses that are growing on land in a city, are taller than 8 inches, have gone to seed, and are not a part of a managed natural landscape are prohibited. The law went into effect July 1, 2023, and supersedes any local regulations requiring residents to maintain a managed turf-grass lawn.

The screenshot shows the Ferndale city website. At the top is the navigation bar with the Ferndale logo and links for HOME, GOVERNMENT, and RESIDENTS. Below the navigation bar is a search bar. The main content area is titled 'RESOURCE: Planned Natural Landscaping'. It features a paragraph about the benefits of native plants for local wildlife and ecosystems, noting that native plants require less watering and maintenance. Below the text is a green button labeled 'Register Your Yard'. At the bottom of the visible section is a heading 'Planned Natural Landscaping Benefits' followed by the subheading 'REDUCES COST AND MAINTENANCE'. The text continues to explain that native plants are self-sufficient and can save up to 90% of the costs of traditional lawns by requiring less labor, water, fertilizer, and pesticides.

Local resources for Livonia in adopting a native landscaping ordinance

- Friends of the Rouge supports green stormwater infrastructure and native landscaping through education and grant-funded projects
- Wild Ones provides a *Sample Native Plant Ordinance* to support municipalities
- Livonia Native Landscaping Ordinance Team members Rosina Newton, Bob Hauser, and Evan Rosin



Photo Credit: Plymouth Pollinators

Examples of beautiful local native landscapes



Photo: Wayne State Native Garden, by Michelle S.



Photo: Michelle S. with her Wayne State Garden



Photo: Plymouth Pollinators Monarch
Waystation



Photo: Livonia Resident, Ted H.

A photograph of a well-maintained garden. In the foreground, there are several pink and white flowers, possibly coneflowers, growing in a bed of mulch. A black garden lamp with a white light fixture stands in the middle ground. The background is filled with dense green foliage and trees. The overall scene is vibrant and healthy.

Thank you! Questions?

Livonia Native Landscaping Ordinance Team Members

Contact us with any
questions

Rosina Newton - 512-638-3401
rokanew@gmail.com

Bob Hauser - 734-748-9652
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Evan Rosin - 248-752-4090
evan.rosin@gmail.com

Cyndi Ross

Annie Sarazin

David Waxer

winner in the 2023 Detroit News
Homestyle garden photo contest!

NEW DATA RECEIVED FOR THE LAW AND EDUCATION
COMMITTEE MEETING OF DECEMBER 4, 2024

From: [Rosina N](#)
To: [McCullough, Brandon](#); [Budzinski, Carrie](#); [Donovic, Rob](#); [Morgan, Scott](#); [Kasprowicz, Sara](#)
Cc: [Rosina N](#); [Bob Hauser](#); [Evan Rosin](#); [Cyndi Ross](#); [David Waxer ICE](#); [Anne Sarazin](#)
Subject: Resolution #308-24, Additional Materials
Date: Monday, December 2, 2024 8:11:14 AM
Attachments: [ASLA 5 Reasons Native Plants Help You Save Money and the Planet.pdf](#)
[GSI-Impact-on-Property-Values.pdf](#)
[Michigan prohibited and restricted weeds.pdf](#)
[Native Landscaping Ordinance Minnesota Examples.pdf](#)
[Native Landscaping Ordinance United States Examples.pdf](#)
[Native Landscaping Ordinance Wild Ones Sample.pdf](#)
[MSU GSI Building sustainable and resilient communities.pdf](#)
[NCS letter of support.pdf](#)
[Livonia MS4 Stormwater Discharge Application 2016.pdf](#)

Dear Livonia City Council

President Brandon McCullough, Members Carrie Budzinski, Rob Gjonaj
Donovic, and Scott Morgan

Enclosed please find additional supportive resource documents for the
December 4th meeting.

Thank you!

Sincerely,
Livonia Native Landscape Ordinance Team

Rosina Newton, resident and *Friends of the Rouge* staff
Bob Hauser, resident and *Wayne County Wild Ones* vice president
Evan Rosin, Wayne Co. Conservation District
Cyndi Ross, resident and *Friends of the Rouge* manager
Annie Sarazin, resident
David Waxer, resident



American Society of
Landscape Architects

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Menu

Residential Design

5 REASONS NATIVE PLANTS HELP YOU SAVE MONEY AND THE PLANET



2008 ASLA Honor Award, Residential Design Category, Beach House, Dirtworks / image: Dirtworks

1. Native plants are healthier and stronger. Plants native to an area are more likely to establish quickly and will naturally be hardy and healthy. Native plants have evolved over thousands of years, learning to thrive in particular areas—they grow in harmony with the environment, the soil, the water supply, the varying weather throughout all the seasons, and other native companions. Their root systems are deep, sometimes up to 15 feet, and acclimated to the soil, be it clay or sand, and average precipitation, whether it is high or low. Their stems and leaves can handle harsh sun or buffeting winds, for example, if that is the nature of the local environment. They are also part of a larger natural ecosystem.



2014 ASLA Honor Award, Residential Design Category, Hill Country Prospect, Studio Outside Landscape Architects / image: Arlen Kennedy Photography and Robert Reck Photography

2. Native plants create wildlife habitat in your backyard. When native plants thrive in their original environment, they create a natural habitat for wildlife that is both beneficial to the environment and adds life to your outdoor space. We think of the obvious pollinators, like bees, birds, and butterflies, but these plants can also help create homes for small animals, warm and cold-blooded, and microscopic organisms in the soil. All these living things have jobs to do; the natural environment promotes a symbiotic relationship.



2013 ASLA Honor Award, Residential Design Category, Maple Hill Residence by Stephen Stimson Associates Landscape Architects / image: Charles Mayer Photography

3. Native plants help the environment. Native plants also have other benefits. They require much less watering, fertilizer, and pesticides. In fact, they can prevent water run-off and improve air quality. Native plants can help decrease pollution because they eliminate the need for mowers and other equipment. Native plants have the ability to pull and store excess carbon.



2013 ASLA Honor Award, Residential Design Category, Sonoma Retreat by Aidlin Darling / image: Bruce Damonte

4. Native plants are low maintenance. The long-term upkeep of native plants can be dramatically less costly than turf grass, as well as take less time. The [EPA](#) cites a study of larger properties that estimates that over a 20-year period, the cumulative cost of maintaining a prairie or a wetland totals \$3,000 per acre versus \$20,000 per acre for non-native turf grasses.



2013 ASLA Honor Award, Residential Design Category, Recovered Modernism: A Landscape Matrix Enriches a Dallas Hacienda
by Reed Hilderbrand LLC / image: Alan Ward

5. Native plants add splendor to your landscape. Your native garden can be a sculpted formal space designed with harmony, unity, and interest. Native plants provide a wealth of colors, textures, varying heights, and bloom times, resulting in a stunning display over multiple seasons.



ASLA 2011 Honor Award, Residential Design Category, Carnegie Hill House by Nelson Byrd Woltz Landscape Architects /
image: Eric Piasecki



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GREEN STORMWATER INFRASTRUCTURE IMPACT ON PROPERTY VALUES



photo credit: Philadelphia Water Department

SUMMARY

Green stormwater infrastructure (GSI), such as rain gardens, swales and porous pavement allows us to use natural systems to control stormwater and urban flooding. GSI brings dozens of benefits to neighborhoods that traditional “gray” stormwater infrastructure does not, including places to play, habitats for other species, and cooling on hot days.

This report shows that GSI also adds value to homes. The Center for Neighborhood Technology (CNT) worked with SB Friedman Development Advisors to model the impact of GSI installations, such as rain gardens and swales, on property sales data in two cities and found statistically significant higher sales prices of homes near GSI. These findings add to a growing body of research that shows that nature-based solutions to stormwater management provide many benefits in addition to flood control.



photo credit: NACTO

What we found:

- **Doubling the square footage of rain gardens, swales, planters, or pervious pavement near a home is associated with a 0.28% to 0.78% higher home sale value, on average.¹**

What this means:

- A homeowner with a \$250,000 home could see an increase of \$700 to \$1,950 in home sales value with a doubling of nearby GSI.
- Property value benefits can be part of funding and financing plans for GSI. If the impact we found holds at scale, a community of 10,000 homes could see \$7 million to \$20 million in value created by doubling the size of GSI near each home.
- However, property value increases can create housing insecurity for renters, seniors and other residents. Communities must take pre-emptive action to address any potential displacement risk or financial stress caused by GSI's impacts on home values.

1. Findings are % change in residential sales price per 100% increase of square footage of GSI within a 250-foot buffer of the home.

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IMPORTANCE OF GSI AND PROPERTY VALUES



Stormwater management is critical to community resilience needs as we face the impacts of a changing climate, including more frequent and stronger storms. Asphalt and concrete that prevents rainwater from soaking into the ground leads to urban flooding. Better performing solutions, such as swales and pervious pavement, allow stormwater to infiltrate into the ground instead of flowing into streets and homes. We know that adapting our communities to prevent flooding will save money when storms hit. What the Center for Neighborhood Technology (CNT) and SB Friedman Development Advisors (SB Friedman)'s new research shows is that Green Stormwater Infrastructure (GSI) is also associated with higher property sales prices that create value for residents even during blue skies.

The benefits of trees and parks to property values have been well documented and are already considered in home appraisals and purchase decisions, but newer types of GSI, such as swales and rain gardens, have been less well documented. Accounting for the full economic benefit of GSI is essential to increasing the scale at which it is used as an infrastructure solution. As communities calculate the lifecycle costs and benefits of GSI they can now include a property value benefit based on this research.

This paper documents our research findings on GSI and property values and their implications for communities in terms of GSI finance and preventing household displacement. This research adds to the suite of tools and information CNT provides on GSI benefits, including:

- [Green Values Calculator](#) (coming December, 2020), which includes these latest findings on property value impacts in an interactive online tool.
- [Green Values Strategy Guide](#) (2020), which provides information on how to document other health, economic, climate and transportation benefits of GSI.
- [Increasing Funding and Financing Options for Sustainable Stormwater Infrastructure](#) (2020), which lays out funding and financing models, including lessons learned from the energy and transportation sectors.

IMPACTS OF GSI ON PROPERTY VALUES

We used geocoded data from Seattle and Philadelphia on GSI installations along with real estate sales data to assess the impacts of GSI on property values. Our hedonic pricing model controls for other factors affecting home sales price, including property characteristics like number of bedrooms, location characteristics like distance to transit, and season of sale, to isolate the impact of GSI on home sales price. The following describes our findings for four groups of GSI types.

Rain Gardens, Swales and Planters

Rain gardens, swales and planters are quintessential applications of distributed GSI that are typically vegetated and allow stormwater to infiltrate into the ground. Their stormwater control impacts are well documented, but they also provide aesthetic appeal and other benefits that may impact property values.

What we found

In Seattle and Philadelphia, we found that a 100% increase in square footage of rain gardens, swales or planters within 250 feet of a home is associated with a **0.38% to 0.69%** higher residential sale price.

What this means

That implies that going from 100 square feet to 200 square feet of rain gardens or swales could create \$950 to \$1,725 in additional value for a \$250,000 home.



photo credit: Leonel Ponce on Flickr

Stormwater planter, Philadelphia.

Pervious Pavement

Pervious pavements are materials that allow stormwater to infiltrate sidewalks, driveways or even some roads. Depending on the material and design, pervious pavement may incorporate vegetation or look similar to traditional pavement, but its stormwater management performance is significantly better.

What we found

In Seattle and Philadelphia, we found that a 100% increase in square footage of pervious pavement within 250 feet of a home is associated with a **0.28% to 0.78%** higher residential sale price.

What this means

That implies that going from 100 square feet to 200 square feet of pervious pavement could create \$700 to \$1,950 in additional value for a \$250,000 home.



Pervious pavement

Wetlands, Basins and Trenches

Wetlands, Basins and Trenches are larger-scale stormwater management forms typically designed for stormwater detention, although they may also allow infiltration. These GSI types can be designed to provide aesthetic or recreational value to a community or have relatively utilitarian design features.

- In Philadelphia, the relationship between wetlands, basins, trenches and home sales prices was not as strong as it was for other GSI types. We found that a 100% increase in square footage of wetlands, basins or trenches within 250 feet of a home was associated with a **0.23%** higher residential sale price when controlling for homeownership in the census tract at a 0.1 level of statistical significance. We did not find any statistically significant relationship when controlling for education or poverty rates in the census tract.
- In Seattle, there were only 9 wetlands, 2 basins and no trenches in our data, which may be why we did not find a statistically significant relationship with these GSI types and home sales prices in Seattle.



photo credit: Christopher B. Hoffman Landscape Architect

Green Roofs and Cisterns

Green roofs and cisterns retain and reduce runoff. Green roofs can also be designed for recreation or urban agriculture. The economic benefits of green roofs to commercial building owners, rental property owners and more are well documented in the literature (see Bibliography). However, our findings in Philadelphia showed a negative correlation with residential sales values and the Green Roofs and Cistern GSI types. We hypothesize that this negative correlation may be because green roofs and cisterns in Philadelphia are often on commercial properties.² Therefore, the residential home sales near these green roofs and cisterns in our dataset may be impacted by lack of residential neighborhood amenities, commercial operations or other factors that are not captured in our model. This is an area worthy of further research.

- We found that a 100% increase in square footage of green roofs and cisterns within 250 feet of a home is associated with a **-0.61% to -1.5%** lower residential sale price. However, as described above, we hypothesize that this value may not be representative of residential green roofs and recommend caution in using this finding. See the bibliography for additional research on green roof impacts.
- In Seattle, there was only one green roof in our data, and that sample was too small to find meaningful results.



photo credit: areedle on Flickr

Green roof on the 17th floor of the Russell Investments Center in Seattle

2. Philadelphia offers a business tax credit of up to 50% for green roofs, which is a significant incentive for commercial installation. The city also has a grant program for non-residential stormwater projects, and commercial developments face stormwater requirements that can be met in part with green roofs and cisterns. As a result, there are grocery stores, office buildings, hospitals, and other non-residential facilities with green roofs throughout the city. These are a great benefit to the city's stormwater management needs and provide many co-benefits, including heat island mitigation.

See also: City of Philadelphia. "Green Roof Tax Credit." Accessed October 2020. <https://www.phila.gov/services/payments-assistance-taxes/tax-credits/green-roof-tax-credit/>

City of Philadelphia, Philadelphia Water Department. "Stormwater Grants, Application Guide. Vol 2.0." December 2019. <https://www.phila.gov/water/wu/Stormwater%20Grant%20Resources/StormwaterGrantsManual.pdf>

IMPLICATIONS FOR FUNDING AND FINANCING GSI

Overall, the findings that rain gardens, swales, planters and pervious pavement are associated with higher home sales prices is evidence of their value creation. This additional value can play a role in funding and financing green infrastructure installation by individual property owners, municipalities or stormwater utilities.

As with most infrastructure investment, the capital cost of GSI must occur before its stormwater management benefits or its impact on property values can be realized. Communities use a variety of financing mechanisms to address this gap between investment and return. The research presented in this paper shows statistically significant evidence of residential value creation that can be leveraged to fund GSI, such as through special service districts or tax increment financing-like tools.

Special Service Districts

Special service districts—also called special assessments, Local Improvement Districts, or other names depending on where they are implemented—are distinct areas in a city that choose to invest in additional amenities or infrastructure and pay for the increased service over time through an added tax or fee on real property. One example is a business improvement district that elects to add benches, public recycling bins, wayfinding signs and other amenities for tourists.

In the context of GSI, managing stormwater at the neighborhood-scale with GSI could be financed through a special service district and paid back over time with an assessment to property owners. Knowing that GSI may add 0.28% to 0.78% to their home sales price may make property owners more likely to participate.

Tax Increment Financing

In communities that regularly re-assess properties, our findings that GSI is associated with a 0.28% to 0.78% higher home sales price may mean the presence of GSI is increasing the property tax base. This also indicates there will likely be property tax growth following GSI investment. Tax Increment Financing (TIF) and other TIF-like structures use future tax growth like that to fund infrastructure investment.

Our findings mean GSI could be installed in a neighborhood and paid for, at least in part, over time using the increased property tax that it generates. To make a full TIF worthwhile, including financing costs and other associated expenses, distributed GSI like we are describing in this research would likely need to be part of a broader community development or climate resilience infrastructure package.

Consider a city block with 20 homes. If each home were worth \$250,000 today, our findings show that doubling the GSI on that block could mean those homes sell for \$700 to \$1,950 more. If that is incorporated into their tax assessments each home would generate \$21 to \$59 in additional property taxes annually at a 3% tax rate—or \$8,000 to \$23,000 total for the block over the next 20 years. That value could be used to help pay for the capital cost of the GSI or to fund ongoing GSI maintenance to ensure the installations continue to provide value.

A specific TIF may not be necessary to create this kind of value capture, and the relatively modest benefits of distributed GSI alone may not warrant a stand-alone value capture mechanism. However, the evidence of increased property value associated with GSI could make it easier to use non-TIF financing tools that are paid back through municipal general funds. These mechanisms can also be used to meet other community needs and address displacement risk, as discussed in the next section of this report.

In areas with new development, these property value findings can make the case for exploring additional GSI development fees to create neighborhoods that are resilient in the face of a changing climate.

CNT's report [Increasing Funding and Financing Options for Sustainable Stormwater Infrastructure](#) (2020), lays out funding and financing models for GSI, including lessons learned from the energy and transportation sectors. Value capture has been used with Transit Oriented Development in recent years and may serve as a model for GSI financing.

GSi AND ANTI-DISPLACEMENT STRATEGIES

The findings of this research on the property value benefits of GSI poses a challenge:

- **On the one hand**, the many benefits of GSI make it an even better financial investment than if it only mitigated flooding. This can increase the range of funding and financing available for GSI installations in flood-prone neighborhoods, which is important as we face climate-change-driven storms and flooding.
- **On the other hand**, in a time when housing costs are stretching families to the brink, anything that might increase those costs is a risk to communities unless specific steps are taken to prevent displacement.

This section looks at strategies that can be used together with GSI to improve housing security and financial security for neighborhood residents. This is a crucial consideration and must be brought to the forefront in any community before GSI planning and financing are underway. Consider this statement from the University of Minnesota's CREATE Initiative on the interactions between green investments and other systems:

“What green gentrification shows us is that sustainability policies must be viewed within their political and social context. Green investments interact with an economic system that incentivizes property speculation, private profit, and growth. Any reference to environmental justice without a sincere consideration for who will benefit from green investments in a context of privilege and power is merely an appropriation of the movement.”³

Flooding, housing and stormwater infrastructure are intertwined in many ways. As we have paved over our communities the water has nowhere else to go and finds its way into homes. Urban flooding can damage homes, destroy furnishings, and create unhealthy conditions as dampness leads to mold.

The environmental injustices that have been placed on frontline communities, especially Black and Latinx residents, have been compounded by a lack of infrastructure investment. Climate change is making these disparities even worse. As we seek to address the very real problem of urban flooding, we cannot do it in a way that puts residents at risk of displacement.

Groundwork USA's Climate Safe Neighborhoods shows how flooding, impervious surfaces, lack of trees and high heat relates to historical redlining housing discrimination in cities. The areas suffering from urban flooding and lacking green infrastructure today are often the same areas that were “redlined” and denied federal home loans because they had large numbers of immigrants and residents of color.

The red outlined areas in the maps of Richmond, VA below were determined to be the “riskiest” investment areas for federal homeownership dollars in the 1930's. Today the areas with the most impervious surface (dark gray areas on left map), least tree cover (white areas in center map), and highest temperatures (orange/red areas in right map) align closely with those redlined areas.⁴ This makes the need for GSI and climate resilience action all the more important.

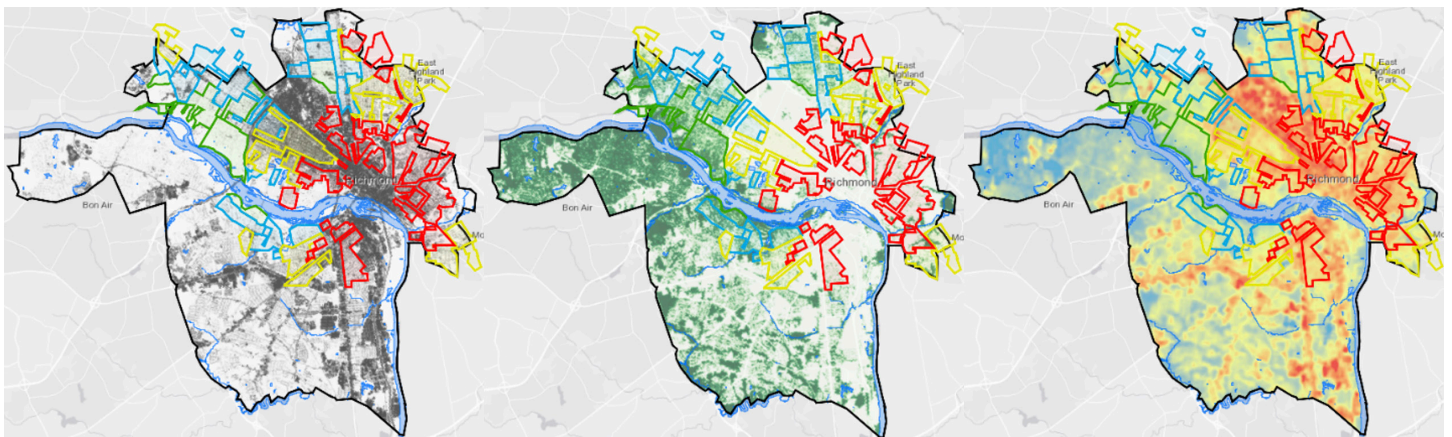


Figure 2. Historical Redlining and Current Impervious Surface (left), Tree Cover (center), and Temperatures (right) in Richmond, VA. Source: Groundwork USA <https://groundworkusa.org/climate-safe-neighborhoods/>

3. University of Minnesota, CREATE Initiative, “Green Gentrification,” May 2019.

<https://canvas.umn.edu/courses/136810/files/8231845/download> For more tools and information from the CREATE Initiative see <https://create.umn.edu/>

4. Groundwork USA, “Climate Safe Neighborhoods,” 2019 <https://groundworkusa.org/climate-safe-neighborhoods/>

There is a great deal of discussion among scholars and practitioners about the definitions of gentrification and displacement. While it is true that increased neighborhood wealth need not lead to displacement, without careful planning and intent it *can* and *does*. Dr. Devin Michelle Bunten describes the interconnections as follows:

“Gentrification is the territorial expansion of a wealthy community into a disinvested neighborhood, the installation of the social and legal regimes of the newcomers, and the deployment of new physical capital, both on a small scale—by homeowners undertaking renovations—and on a larger scale, by landed capitalists and public-sector officials keen to raise revenue. It is the disruption and displacement of the original residents and their spatially realized social networks.”⁵

Investment without Displacement

So, how do we encourage the investment needed in communities to fight flooding without putting existing residents at risk of displacement? The best practices around the country look at GSI as part of a suite of actions that are neighborhood-driven. GSI is not treated as a stand-alone activity that is unrelated from other neighborhood needs. In that spirit this paper includes strategies that are not purely GSI-related but will help stabilize neighborhoods and ensure residents are able to receive the benefits of GSI investment.

Too often parks, greenspace and other green investments have come to a neighborhood from outside and created consequences that, while likely unintentional, cause real harm: residents reporting feeling excluded from their own landscape, the alienation of culturally-illiterate urban design, investment dollars and jobs that flow to outside contractors, housing and community instability as higher-wealth entities are drawn to the neighborhood, and frustrations as other basic neighborhood needs remain unmet.⁶

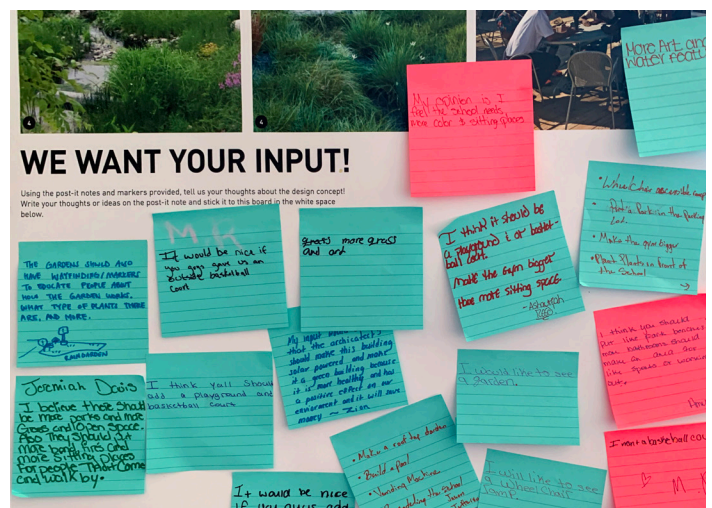
Addressing more than one issue at a time might seem like a high bar to clear in a community that is struggling for GSI funds alone, but we live in an era of disruption from climate change and we recognize that every action we take must lead to racial justice, so it is no longer viable to solve for one problem in a vacuum. We must start working smarter and our investment choices need to have multiple measures of impact.

The good news is that our findings show that a dispersed set of GSI strategies on public and private property can add to home values, but we did not find that rain gardens, swales, planters or pervious pavement cause home prices to skyrocket. While the impacts of well-known large-scale green investments, such as the High Line in New York or the 606 in Chicago have been large,⁷ rain gardens, swales, porous pavement and other stormwater strategies can be implemented in meaningful ways without the same degree of shock to a neighborhood.

This is not to dismiss the many benefits of these GSI strategies, but to say that with some careful planning the benefits can be realized while minimizing negative impacts. The strategies we highlight here to do that include community planning, community ownership, renters rights, affordable housing, job creation, value capture, and equity-focused program design. This is not a comprehensive list, and we expect knowledge of successful strategies to grow over time as communities approach GSI as part of comprehensive, neighborhood-driven climate resilience.

Community Planning

A commitment to GSI investment without displacement must begin with meaningful engagement of communities from day one and throughout the process of identifying needs, setting priorities, design, implementation and beyond. A good starting point is to create common ground on investment principles. As an example in the housing and infrastructure policy field, California-based ClimatePlan has done this with a multi-stakeholder platform agreed to by 20 organizations.⁸



5. Devin Michelle Buntin, "Untangling the Housing Shortage and Gentrification," *CityLab*, October 23, 2019, <https://www.citylab.com/perspective/2019/10/neighborhood-gentrification-affordable-housing-california/598135/>

6. For example, see: Pendarvis Harshaw, "Do Parks Push People Out?" *Bay Nature*, October 1, 2018, <https://baynature.org/article/do-parks-push-people-out/>

7. Institute for Housing Studies at DePaul University. "Measuring the Impact of the 606: Understanding How a Large Public Investment Impacted the Surrounding Housing Market." 2016. https://www.housingstudies.org/media/tiler_public/2016/10/31/ihs_measuring_the_impact_of_the_606.pdf

8. "ClimatePlan's Commitment to Investment without Displacement." 2019.
[https://43n8a8oro7vnxm.cloudfront.net/climateplan/pages/348/attachments/original/1554421571/ClimatePlan's Commitment to Investment without Displacement 442019.pdf?1554421571](https://43n8a8oro7vnxm.cloudfront.net/climateplan/pages/348/attachments/original/1554421571/ClimatePlan's%20Commitment%20to%20Investment%20without%20Displacement%20442019.pdf?1554421571)



GSI planning at the Overton Campus near Bronzeville, Chicago developed a plant voting board for the rain garden to collect feedback on the types of plants and gathering space amenities folks wanted to see at the site.

If there are essential community needs—such as inability to pay utility bills, food insecurity, or community safety—the planning process should make space for incorporating those in a real way. GSI that reduces a street’s flooding problem can also be designed to mitigate public health emergencies from high heat days. This is not to say that a community has to solve all of its problems at once, but rather that resilience planning can’t leave urgent needs off the planning table.

Identifying needs can also create opportunities to involve other entities that might not usually be involved in stormwater discussions, such as energy utilities or affordable housing agencies, that might bring creative solutions—and additional funding—to solve multiple problems at once. An example might be a comprehensive housing rehabilitation strategy to address flooding, install GSI, improve energy efficiency and mitigate health hazards like mold all together instead of through 3-4 separate programs.

In addition to identifying needs and setting community priorities, planning should include developing agreed-upon performance standards and metrics. Is there agreement on the existing conditions and the forces affecting the community today? Does everyone have the information they need to make informed decisions? Are there

investments that would be “green enough” and meet the resilience needs of the community without signaling gentrification? How will the community track and score equity impacts over time? How will the city or utility respond if maintenance of GSI declines? Though often used for larger-scale investments, Community Benefits Agreements (CBAs) can be a tool for documenting commitments to a community in a binding way.⁹ Additionally, community-based participatory research (CBPR) is a useful framework for partnering on data collection, analysis, and benchmarking.

Another element of community planning is incorporating the cultural aspects of the existing neighborhood in GSI. Are there cultural touchstones that would continue to give the community a sense of belonging as GSI is added?¹⁰

Community Ownership

There are several aspects of “ownership” to consider as part of GSI investment planning. The first is the ownership of the vision and goals, which should be addressed through meaningful community-based planning as discussed previously. The second is ownership of the benefits created by GSI. If GSI is adding financial value to a neighborhood, how are existing residents accessing that?¹¹

9. PolicyLink. All In Cities. “Community Benefits Agreements.” <https://allincities.org/toolkit/community-benefits-agreements>

10. See examples of several Chicago sites that combine art, culture and green infrastructure at: <https://www.cnt.org/blog/public-art-installations-meet-green-stormwater-infrastructure>

11. For a good discussion of policy options see: Anna Cash and Miriam Zuk. “Investment Without Displacement: From Slogan to Strategy.” *Shelterforce*. June 21, 2019. <https://shelterforce.org/2019/06/21/investment-without-displacement-from-slogan-to-strategy>

For current owners, an example might be a property tax freeze or credit for seniors and fixed income households to prevent them from facing housing insecurity due to property value increases.

Another example is improving housing security and ownership for existing residents through the transition of rental property to ownership models through cooperatives or land trusts. Land trusts discourage speculation and improve home ownership opportunities by holding land in trust and separating land value from the value of the structure on it.¹²

The financial benefits of green investment could also be channeled into investments prioritized by existing community members and managed by community organizations, such as a community development corporation. Once established, this can be a common platform for multiple types of investment, such as if the community chooses to pursue affordable housing development or community solar investment. The financing tools discussed in the previous section of this report could also be part of this structure.

Renters Rights and Affordable Housing

Renters are often most at risk for displacement as investment occurs in neighborhoods. The article, “Investment Without Displacement: From Slogan to Strategy,” outlines many good examples for addressing renter needs.¹³ These interventions can range from voluntary to regulatory. Strategies like code enforcement can ensure rental homes are safe and meeting resident needs. Enabling renters to act through tenants unions, a renters bill of rights, or legal assistance can also be powerful. Stronger tools may be necessary to permanently protect existing residents from the tides of investment, gentrification and displacement. These can include rent control, acquisition of naturally affordable housing by a non-profit affordable housing provider, inclusionary zoning, or the development of new subsidized housing.

Consideration should also be given to the commercial renters in the neighborhood. Legacy businesses essential to community culture or those affordably meeting existing resident needs may need the same type of protections as renter households.

Portland’s Living Cully is an example of combining affordable housing needs with green infrastructure. In 2018, a 25-acre park was created in the neighborhood,

but new affordable housing was created at the same time.¹⁴ Job training, local hiring and the inclusion of local priorities, such as a new commercial kitchen and day care center in the development are all part of the neighborhood coalition’s comprehensive approach.

Job Creation

GSI investment creates near-term cash flows for the workers and companies that design, install and maintain it. Directing those funds to the community can add to local economic stability. For example, job training that begins long before shovels hit the ground in the community—perhaps through paid apprenticeships at other GSI sites—can enable residents to be hired to build their community’s GSI. Local sources of materials and contracts for the GSI can support community businesses and entrepreneurship. If GSI is going to require long-term maintenance, perhaps work with community members to create a business that can meet that need.

Consider, also, paying residents for their expertise throughout the process—including during the planning phase. This has the benefit of creating a team of equals, rather than community volunteers and paid staff and consultants from the city or utility, which can result in better projects and a greater long-term sense of ownership and personal investment in success.

The individual strategies listed here are unlikely to prevent displacement from occurring as property values rise on their own. But several of them together, as part of a comprehensive strategy that starts even before GSI planning, have a real chance to create intentional neighborhood change that is beneficial to existing residents, rather than unintended changes that result in their displacement.

The remainder of this document further describes our research approach and findings of property value impacts associated with GSI investment. It is our intention that by incorporating these research findings with the anti-displacement strategies discussed above future GSI investment will channel its value creation toward both climate and economic resilience for existing residents.

12. Miriam Axel-Lute and Dana Hawkins-Simons. “Community Land Trusts Grown from Grassroots: Neighborhood Organizers Become Housing Developers.” Lincoln Land Institute. July 2015.
<https://www.lincolniinst.edu/publications/articles/community-land-trusts-grown-grassroots>

13. Anna Cash and Miriam Zuk. “Investment Without Displacement: From Slogan to Strategy.” *Shelterforce*. June 21, 2019..
<https://shelterforce.org/2019/06/21/investment-without-displacement-from-slogan-to-strategy/>

14. CNT. Urban Opportunity Agenda, Case Study, Living Cully, 2019.
<https://uoa.cnt.org/case-studies/living-cully/>

RESEARCH METHOD

City Selection

We compiled GSI project and program information into a matrix of 17 cities based on literature and partners in the field. We then began paring the list down based on several variables—1) Number of GSI installations in a city, to ensure we had a robust data sample; 2) GSI installations before 2015, so there has been time for GSI to potentially impact property sales; 3) Geospatial GSI data in a format we could match to property sales records; and 4) Accessible home sales data with detailed home attribute information. Using these criteria and conversations with our network of GSI experts we selected three cities for analysis—Philadelphia, PA; Seattle, WA; and Milwaukee, WI. Unfortunately, the Milwaukee GSI data were not ultimately a good match to the study design and home sales data, so this document presents findings for Philadelphia and Seattle. We have included a discussion of data in the “Areas for Further Research and Action” section later in this document.

GSI Typology

To facilitate modeling we grouped the GSI installations in each city into a set of four types based on their characteristics as follows:

- Group 1 includes swales, planters, rain gardens, and bumpouts, which are distributed forms of GSI that are typically vegetated, smaller in scale, and designed for stormwater infiltration.
- Group 2 includes wetlands, basins and trenches, which are larger-scale stormwater management forms typically designed for stormwater detention. Infiltration and storage trenches are included in this group, but trenches specifically designated as tree trenches were excluded, because the property value impact of trees is well documented and we wanted to examine the impacts of other GSI types.
- Group 3 includes only pervious pavement, which is a hard surface that allows stormwater to infiltrate.
- Group 4 includes green roofs and cisterns, which both reduce stormwater runoff.

Table 1 lists the GSI types included in this study by group along with counts of each type in the Philadelphia and Seattle data sets along with GSI definitions from Philadelphia’s GSI Planning and Design Manual.

Table 1. GSI Typology and Count of Installations in Philadelphia and Seattle

GSI Group	GSI Type	Philadelphia Count by Type (2019) ¹⁵	Seattle Count by Type (2019) ¹⁶	Definition ¹⁷
1	Swale	29	101	"A depressed channel designed to convey stormwater. It can be designed to attenuate and/or infiltrate runoff where feasible."
1	Planter	114	29	"A structure filled with soil media and planted with vegetation or trees. Designed to detain and release stormwater runoff and/or infiltrate where feasible. Planters often contain curb edging or fencing as barrier protection around the planter."
1	Rain Garden	544	14	"A shallow depressed area designed to detain and release stormwater runoff and/or infiltrate where feasible. Vegetated and non-mowed. May also be referred to as bio-infiltration basins and bio-retention basins."
1	Bumpout	28		"A vegetated curb extension that intercepts gutter flow. Designed to detain and release stormwater runoff and/or infiltrate where feasible."
2	Wetland	5	9	"A vegetated basin designed principally for pollutant removal. It typically holds runoff for periods longer than 72 hours and may include a permanent pool. Can also detain and release stormwater runoff."
2	Basin	130	2	"A depression that is vegetated with mowed grass. Designed to detain and release stormwater runoff and/or infiltrate where feasible."
2	Trench	1198		"A subsurface structure designed to detain and release stormwater runoff and/or infiltrate where feasible. Infiltration / storage trenches are frequently installed underneath of other SMP's such as rain gardens, planters, and bump-outs."
3	Pervious Pavement	345	37	"A hard permeable surface commonly composed of concrete, asphalt, or pavers. It is designed to detain and release stormwater runoff and/or infiltrate where feasible."
4	Green Roof	196	1	"A vegetated surface installed over a roof surface. Effective in reducing the volume and rate of stormwater runoff."
4	Cistern	17		"A tank or storage receptacle that captures and stores runoff and can thereby reduce runoff volume. The stored water may be used to serve a variety of non-potable water needs (e.g., irrigation)." May also include Rain Barrels.

15. GSI data from OpenDataPhilly as of 2019.
<https://www.opendataphilly.org/>

16. GSI data from City of Seattle Open Data Portal as of 2019.
<https://data.seattle.gov/>

17. City of Philadelphia, Philadelphia Water Department. "Green Stormwater Infrastructure Planning & Design Manual, Version 2.0, Appendix A.3." April 2018.
http://documents.philadelphiawater.org/gsi/GSI_Planning_and_Design_Manual.pdf

Model Development

Hedonic price modeling is a well-established type of statistical analysis that looks at the impact of a particular factor—in this case GSI—on home sales prices while holding other factors constant. We examined the existing literature on home value impacts of trees, parks, and GSI in the development of our model:

- We classified the variables used in the literature, such as building size, number of bedrooms or distance from transit, and tracked which variables were identified as statistically significant. The variables we used in our model were:
 - Property characteristics: living area square feet, # bathrooms, # bedrooms, fireplace, garage, basement, whether the home is detached, whether the home is an apartment unit
 - Geographic factors: within .25 or .5 miles of parks, water, and fixed-rail public transit (separate variables for each)
 - Time of sale: year (2009 through 2019), quarter (spring, summer, fall, winter)
 - Sales which occurred in the intervention area prior to GSI installation are used to control for unobserved spatial effects.
- Most models of this type also include one or more census tract-level variables to control for demographic factors. We model our findings three times using three separate demographic variables: education (percentage of residents with a bachelor's degree or higher), poverty rate, and homeownership rate. Due to the way mixed-effect models are calculated and the level of correlation between tract-level variables, it was not possible to incorporate more than one tract-level variable in the same model run.
- The majority of the studies we documented in the literature modeled sales price as their outcome variable, which is what we did in this study.
- The literature uses several different approaches to defining the main effect they were studying, but most models used distance in their definition—such as whether a home value goes up as it is closer to a park or whether trees within 100 feet of a home impact its value—so we have included a distance element in our model as well. GSI within 250 feet of a home was examined for its impact on the home's value.

Home Sales Data

For the home sale data, we used residential property sales, both single- and multifamily, from 2009 through early 2020 for each case study city. The home sale data for Philadelphia were obtained from the city's MLS provider – BrightMLS. Seattle home sale data was obtained from the publicly-accessible platform provided by the King County Department of Assessments. All home sale data were reviewed and edited to remove any duplicate sales records and non-arm's length transactions, as well as identifiable judicial or tax sales.

After obtaining, reviewing and filtering the data, our home sale datasets included approximately 127,000 sales records for Philadelphia and 66,000 for Seattle. We also examined 44,000 sales records for Milwaukee from MetroMLS, but as mentioned previously, we did not find a good match between the study design, home sales and GSI data in that city and so were not able to use it in our model.

Impacts by Number of GSI Installations

In addition to analyzing GSI impact by square footage as described earlier, we also looked at the relationship between number of GSI installations and home sales price. These results using GSI counts are more complex, which may speak to the variability of GSI types—being located near a single stormwater planter is quite different than having a swale filled with native plantings lining the entire front of your property.

- Effect of proximity to any one or more GSI installations:
 - As Table 2 shows, we found that proximity to one or more rain garden, swale, or stormwater planter was associated with a 2.8% higher home sales price in Seattle, but no statistically significant relationship was found for that in Philadelphia.
 - We found 3.1% to 3.2% higher home sales prices near wetlands, basins, trenches and pervious pavement in Philadelphia when controlling for education and homeownership.
 - When controlling for the poverty rate in the census tracts the observed impact diverged, with a 6% home sales value increase near pervious pavement and no statistically significant increase associated with wetlands, basins or trenches.
 - As discussed previously, the nearby presence of green roofs and cisterns was associated with a lower home sales price, which we hypothesize may be due to the commercial, rather than residential nature of many of those GSI types in Philadelphia.
- Another way to look at the impact of the number of GSI installations is to consider the incremental impact of each additional GSI installation on sales price.
 - In this case we found that each additional rain garden, swale, stormwater planter or pervious pavement was associated with a 1.5 %to 1.9% higher home sales price in Philadelphia when we controlled for education or homeownership levels in the census tract, but the impact again diverged when we controlled for poverty rates in the census tract.
 - In Seattle, we found a 0.19% to 0.33% increase in home sales price was associated with an additional rain garden, swale, planter or pervious pavement installation.
 - The variability between the cities on this finding is not immediately explainable. The values for effect per hundred percent increase in GSI square footage are more consistent across the two cities, so we recommend using that metric of value creation.

Table 2. Effect of Nearby GSI Installations on Residential Sales Prices in Philadelphia and Seattle

Effect of Proximity to Any (One or More) GSI Installations ^

Site	Philadelphia			Seattle		
Census Tract Control Variable	Education	Poverty	Homeowner	Education	Poverty	Homeowner
Group 1: rain gardens, swales, planters	--	--	--	2.8% ***	2.8% ***	2.8% ***
Group 2: wetlands, basins, trenches	3.1% **	--	3.1% **	--	--	--
Group 3: pervious pavement	3.2% *	6.0% ***	3.2% **	!	!	!
Group 4: green roofs, cisterns	-5.2% **	-13.1% ***	-5.8% **	!	!	!
Conditional R ² (LMM)	0.96	0.95	0.91	0.85	0.85	0.84
Number of sales	126,898			65,767		
Number of sales within 250 ft of a GSI	10,073			29,384		

Effect per Hundred Percent Increase in GSI Square Footage ^

Site	Philadelphia			Seattle		
Census Tract Control Variable	Education	Poverty	Homeowner	Education	Poverty	Homeowner
Group 1: rain gardens, swales, planters	0.69% **	0.50% *	0.63% **	0.40% ***	0.38% ***	0.39% ***
Group 2: wetlands, basins, trenches	--	--	0.23% '	--	--	--
Group 3: pervious pavement	0.52% **	0.78% ***	0.53% **	0.30% ***	0.28% ***	0.29% ***
Group 4: green roofs, cisterns	-0.61% *	-1.5% ***	-0.69% **	--	!	--
Conditional R ² (LMM)	0.96	0.95	0.91	0.86	0.93	0.86
Number of unique SF estimates	1,356			6,849		
Average and Standard Deviation of GSI SF	115 (2,037)			117 (921)		

Effect of Each Additional GSI on Sale Price ^

Site	Philadelphia			Seattle		
Census Tract Control Variable	Education	Poverty	Homeowner	Education	Poverty	Homeowner
Group 1: rain gardens, swales, planters	1.9% **	--	1.9% **	0.20% ***	0.23% ***	0.19% ***
Group 2: wetlands, basins, trenches	0.51% *	--	0.36% '	--	--	--
Group 3: pervious pavement	1.5% **	1.8% ***	1.5% **	0.33% ***	0.24% ***	0.33% ***
Group 4: green roofs, cisterns	--	--	--	--	--	--
Conditional R ² (LMM)	0.96	0.95	0.91	0.83	0.92	0.84
Maximum Numbers of GSI per Sale	52			37		

Significance levels: " ' " = .10, " * " = .05, " ** " = .01, " *** " = .001.

"--" indicates no significant relationship. "!" indicates that the parameter was too similar to the spatial control to create a reliable estimate.

^After controlling for property characteristics, time of sale, and geographic features.

Property characteristics: living area sf, # bathrooms, # bedrooms, fireplace, garage, basement, is detached, is apartment unit

Geographic factors: within .25 or .5 miles of parks, water, and fixed-rail public transit (separate variables for each)

Time of sale: year (2009 through 2020), quarter (spring, summer, fall, winter)

Sales which occurred in the intervention area prior to GSI installation are used to control for unobserved spatial effects.

AREAS FOR FURTHER RESEARCH AND ACTION

GSI Data

The trend of cities making geocoded GSI data available through their open data portals made this study possible, and we strongly support expanding the capacity for more cities to geocode their GSI assets and publish that data publicly. This would not only enable research like this, but is crucial to tracking, maintaining, and valuing GSI like the significant infrastructure it is.

There are GSI characteristics like square footage, that were essential to this study, but not tracked by every city consistently. A survey of GSI installations including detailed descriptive data, much like many cities have done for their tree inventories, would be valuable in any city. As more GSI information is tracked it will be most useful if it is done so using a common data structure across cities, so we support the creation of a GSI data standard. The General Transit Feed Specification (GTFS) standard used in the public transportation field in recent years allows transit service to be shown on tools like Google Maps and is a great example of how a common data format can bring value.

Interactions of Benefits

While we have documented an association between GSI and property value to a high degree of statistical significance for many GSI types, we do not know exactly what benefits are driving that value. Is it because GSI installations full of flowers and native plants looks nice? Is it because a neighborhood full of GSI is a neighborhood managing its stormwater? Or, as at least one study theorizes, is the presence of GSI a social signal of environmentalism or community-cohesion that influences home buyers?¹⁸

Additionally, GSI is often implemented together with other improvements—for example, pervious pavement might be part of a complete streets project that adds pedestrian and bicycle infrastructure. The large number of home sales data in our study means some of our control group homes are near bicycle and pedestrian infrastructure, so we are finding a real association with pervious pavement and other GSI types, but teasing out the impacts of individual project and design elements in a community would be of value.

Similarly, we do not know the factors that may be limiting GSI's benefits in our dataset. We hypothesize that commercial areas may have elements that offset the

benefits of commercial green roofs to neighboring homes. A study of stormwater basins in Baltimore County, Maryland theorizes that stormwater basins perceived as “unkempt, overgrown, or unsightly” may drive down home values. This could speak to the need for upfront design that prioritizes aesthetics, ongoing maintenance and community education to transform the perception of native plants and nature-based landscapes from unkempt to beautiful.¹⁹

Incorporation in Appraisal and Financing

Incorporation of GSI in home value appraisals can help solidify its value as an infrastructure system, and, as discussed in the funding and financing section, enable GSI investment. Trees are an example of GSI that is regularly included in home appraisals. The findings presented here for other GSI types make a case for including them as well.

This study looked at GSI impacts on residential property values, but similar research on commercial and institutional property values would benefit the field of knowledge and provide further tools for funding and financing.

Displacement

By documenting the property value impact associated with GSI investment we are hoping to bring to light a financial force that has been implicitly understood in communities around the country but has rarely been explicitly quantified. We have provided several best-practice-strategies for avoiding displacement in this paper. However, we would like to see these findings and strategies applied together by GSI implementers as a cohesive community-driven strategy to create community resilience followed by quality evaluation to track outcomes.

18. Wachter, S. M., & Wong, G. "What Is a Tree Worth? Green-City Strategies, Signaling and Housing Prices." *Real Estate Economics*, 36(2), 2008.

https://repository.upenn.edu/cgi/viewcontent.cgi?article=1036&context=real-estate_papers

19. Irwin, Nicholas B. & Klaiber, H. Allen & Irwin, Elena G. "Do Stormwater Basins Generate co-Benefits? Evidence from Baltimore County, Maryland," *Ecological Economics*, Vol. 141, 2017.

<https://parnis.gov/servlets/purl/10054859>

BIBLIOGRAPHY

- Anderson, L. M., and H. K. Cordell. "Influence of Trees on Residential Property Values in Athens, Georgia (U.S.A.): A Survey Based on Actual Sales Prices." *Landscape and Urban Planning*, vol. 15, no. 1-2, June 1988, pp. 153-64. https://www.srs.fs.usda.gov/pubs/ja/ja_anderson003.pdf
- ARUP. *San Francisco Living Roof Cost-Benefit Study Report: Summary Report, Draft 2*. June 2016. https://default.sfplanning.org/Citywide/livingroof/SFLivingRoofCost-BenefitStudyReport_060816.pdf
- Axel-Lute, Miriam and Dana Hawkins-Simons. "Community Land Trusts Grown from Grassroots: Neighborhood Organizers Become Housing Developers." Lincoln Land Institute. July 2015. <https://www.lincolninst.edu/publications/articles/community-land-trusts-grown-grassroots>
- Bark, R. H., et al. "Habitat Preservation and Restoration: Do Homebuyers Have Preferences for Quality Habitat?" *Ecological Economics*, 2009. <https://www.sciencedirect.com/science/article/pii/S0921800908004679>
- Bianchini, Fabricio, and Kasun Hewage. "Probabilistic Social Cost-Benefit Analysis for Green Roofs: A Lifecycle Approach." *Building and Environment*, vol. 58, Dec. 2012, pp. 152-62. doi:10.1016/j.buildenv.2012.07.005.
- Braden, John B. and Douglas M. Johnston. "Downstream Economic Benefits from Storm-Water Management." *Journal of Water Resources Planning and Management*, vol. 130, no. 6, November 2004. [https://doi.org/10.1061/\(ASCE\)0733-9496\(2004\)130:6\(498\)](https://doi.org/10.1061/(ASCE)0733-9496(2004)130:6(498))
- Bunten, Devin Michelle. "Untangling the Housing Shortage and Gentrification." *CityLab*, October 23, 2019. <https://www.citylab.com/perspective/2019/10/neighborhood-gentrification-affordable-housing-california/598135/>
- Cash, Anna and Miriam Zuk. "Investment Without Displacement: From Slogan to Strategy." *Shelterforce*. June 21, 2019. <https://shelterforce.org/2019/06/21/investment-without-displacement-from-slogan-to-strategy/>
- Center for Neighborhood Technology. "Urban Opportunity Agenda, Case Study, Living Cully." 2019. <https://uoa.cnt.org/case-studies/living-cully/>
- City of Philadelphia, Philadelphia Water Department. "Green Stormwater Infrastructure Planning & Design Manual, Version 2.0, Appendix A.3." April 2018. http://documents.philadelphiawater.org/gsi/GSI_Planning_and_Design_Manual.pdf
- City of Philadelphia, Philadelphia Water Department. "Stormwater Grants, Application Guide. Vol 2.0." December 2019. <https://www.phila.gov/water/wu/Stormwater%20Grant%20Resources/StormwaterGrantsManual.pdf>
- City of Philadelphia. "Green Roof Tax Credit." Accessed October 2020. <https://www.phila.gov/services/payments-assistance-taxes/tax-credits/green-roof-tax-credit/>
- Clements, Janet, et al. *The Green Edge: How Commercial Property Investment in Green Infrastructure Creates Value*. <https://www.nrdc.org/sites/default/files/commercial-value-green-infrastructure-report.pdf>
- ClimatePlan. "ClimatePlan's Commitment to Investment without Displacement." 2019. https://d3n8a8pro7vhmx.cloudfront.net/climateplan/pages/348/attachments/original/1554421571/ClimatePlan's_Commitment_to_Investment_without_Displacement_4.4.2019.pdf?1554421571
- Colby, Bonnie G. and S. Wishart. "Quantifying the Influence of Desert Riparian Areas on Residential Property Values." *The Appraisal Journal*, vol. 70, no. 3, pp. 304-308, January 2002. https://www.researchgate.net/publication/285136968_Quantifying_the_influence_of_desert_riparian_areas_on_residential_property_values
- Crompton, John L. "The Impact of Parks on Property Values - A Review of the Empirical Evidence." *Journal of Leisure Research*, vol. 33, no. 1, 2001, pp. 1-31. http://www.actrees.org/files/Research/parks_on_property_values.pdf
- Dombrow, Jonathan, Mauricio Rodriguez, and C.F. Sirmans. "The Market Value of Mature Trees in Single-Family Housing Markets." *Appraisal Journal*, vol. 68, 2000. http://www.actrees.org/files/Research/mature_trees_single_family_housing.pdf

- Donovan, Geoffrey H., and David T. Butry. "Trees in the City: Valuing Street Trees in Portland, Oregon." *Landscape and Urban Planning*, vol. 94, no. 2, Feb. 2010, pp. 77–83. https://www.fs.fed.us/pnw/pubs/journals/pnw_2010_donovan001.pdf
- Econsult Solutions, Inc. "The Economic Impact of Green City, Clean Waters - the First Five Years." Prepared for the Sustainable Business Network of Greater Philadelphia. January 2016. https://econsultsolutions.com/wp-content/uploads/2016/02/SBN_FINAL-REPORT.pdf
- Espey, Molly, and Kwame Owusu-Edusei. "Neighborhood Parks and Residential Property Values in Greenville, South Carolina." *Journal of Agricultural and Applied Economics*, vol. 33, no. 3, Dec. 2001, pp. 487–92. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.545.7830&rep=rep1&type=pdf>
- Gibbs, Julie P., et al. "An Hedonic Analysis of the Effects of Lake Water Clarity on New Hampshire Lakefront Properties." *Agricultural and Resource Economics Review*, vol. 31, no. 1, Apr. 2002, pp. 39–46. <https://ageconsearch.umn.edu/record/31475/files/31010039.pdf>
- Green Stormwater Infrastructure data from City of Seattle Open Data Portal as of 2019. <https://data.seattle.gov/>
- Green Stormwater Infrastructure data from OpenDataPhilly as of 2019. <https://www.opendataphilly.org/>
- Groundwork USA, "Climate Safe Neighborhoods." 2019. <https://groundworkusa.org/climate-safe-neighborhoods/>
- Hagen, Bjoern, et al. "Longitudinal Analysis of Ecosystem Services' Socioeconomic Benefits: Wastewater Treatment Projects in a Desert City." *Ecosystem Services*, vol. 23, Feb. 2017, pp. 209–17. doi:10.1016/j.ecoser.2016.12.014.
- Harnik, Peter and Ben Well, Trust for Public Land, *Measuring the Economic Value of a City Park System*. 2009. <https://www.tpl.org/sites/default/files/cloud.tpl.org/pubs/ccpe-econvalueparks-rpt.pdf>
- Harshaw, Pendarvis. "Do Parks Push People Out?" *Bay Nature*. October 1, 2018. <https://baynature.org/article/do-parks-push-people-out/>
- Henry, Mark S. "Landscape Quality and the Price of Single Family Houses: Further Evidence from Home Sales in Greenville, South Carolina." *Journal of Environmental Horticulture*, vol. 17, no. 1, pp. 25–30, 1999. http://www.actrees.org/files/Research/landscaping_house_prices.pdf
- Hobden, Gary E., et al. "Green Space Borders—A Tangible Benefit? Evidence from Four Neighbourhoods in Surrey, British Columbia, 1980–2001." *Land Use Policy*, vol. 21, no. 2, April 2004, pp. 129–138. <https://doi.org/10.1016/j.landusepol.2003.10.002>
- Ichihara, Kiku, and Jeffrey P. Cohen. "New York City Property Values: What Is the Impact of Green Roofs on Rental Pricing?" *Letters in Spatial and Resource Sciences*, vol. 4, no. 1, Mar. 2011, pp. 21–30. doi:10.1007/s12076-010-0046-4.
- Institute for Housing Studies at DePaul University. "Measuring the Impact of the 606: Understanding How a Large Public Investment Impacted the Surrounding Housing Market." 2016. https://www.housingstudies.org/media/filer_public/2016/10/31/ihs_measuring_the_impact_of_the_606.pdf
- Irwin, Nicholas B., et al. "Do Stormwater Basins Generate Co-Benefits? Evidence from Baltimore County, Maryland." *Ecological Economics*, vol. 141, Nov. 2017, pp. 202–12. <https://par.nsf.gov/servlets/purl/10054859>
- Kousky, Carolyn, and Margaret Walls. *Floodplain Conservation as a Flood Mitigation Strategy: Examining Costs and Benefits*. Resources for the Future. 2013. <https://media.rff.org/documents/RFF-DP-13-22-REV.pdf>
- Laverne, Robert J., and Kimberly Winson-Geideman. "The Influence of Trees and Landscaping on Rental Rates at Office Buildings." *Journal of Arboriculture*, vol. 29, no. 5, September 2003. http://www.actrees.org/files/Research/laverne_trees_and_rent.pdf
- Lee, Jae & Li, Ming-Han. "The Impact of Detention Basin Design on Residential Property Value: Case Studies Using GIS in the Hedonic Price Modeling." *Landscape and Urban Planning*, vol. 89, pp. 7–16, 2009. 10.1016/j.landurbplan.2008.09.002
- Lewis, An, et al. *Measuring the Effect of Vacant Lots and Green Infrastructure Improvements on Home Values in Allegheny County, 2012–2014*. Tri-COG Collaborative. 2018 <https://steelrivscog.org/wp-content/uploads/2018/09/Effects-of-Vacant-Land.pdf>

- Lutzenhiser, Margot, and Noelwah R. Netusil. "THE EFFECT OF OPEN SPACES ON A HOME'S SALE PRICE." *Contemporary Economic Policy*, vol. 19, no. 3, July 2001, pp. 291-98. <http://greenstogreen.org/pdfs/resources/resources-openspaces-homesaleprices.pdf>
- MacMullan, Ed and Sarah Reich, ECONorthwest. *The Economics of Low-Impact Development: A Literature Review*. November 2007. https://www.epa.gov/sites/production/files/documents/LID_Economics_Literature_Review.pdf
- Madison, Catherine. "Impact of Green Infrastructure on Property Values within the Milwaukee Metropolitan Sewerage District Planning Area." *Center for Economic Development Publications*. 2013. https://dc.uwm.edu/cgi/viewcontent.cgi?article=1015&context=ced_pubs
- Mazzotta, Marisa, et al. "A Meta-Analysis of Hedonic Studies to Assess the Property Value Effects of Low Impact Development." *Resources*, vol. 3, no. 1, Jan. 2014, pp. 31-61. https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=NHEERL&dirEntryId=267771
- Mohamed, Rayman. "The Economics of Conservation Subdivisions: Price Premiums, Improvement Costs, and Absorption Rates." *Urban Affairs Review*, vol. 41, no. 3, Jan. 2006, pp. 376-99. doi:10.1177/1078087405282183.
- Netusil, Noelwah R. "Economic Valuation of Riparian Corridors and Upland Wildlife Habitat in an Urban Watershed." *Journal of Contemporary Water Research & Education*, vol.134, no. 1, July 2006, pp. 39-45. <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1936-704X.2006.mp134001008.x>
- Netusil, Noelwah R., et al. "Valuing Green Infrastructure in Portland, Oregon." *Landscape and Urban Planning*, vol. 124, Apr. 2014, pp. 14-21. doi:10.1016/j.landurbplan.2014.01.002.
- Netusil, Noelwah R., Sudip Chattopadhyay, & Kent F. Kovacs. "Estimating the Demand for Tree Canopy: A Second-Stage Hedonic Price Analysis in Portland, Oregon." *Land Economics*, vol. 86, no. 2, May 2010, pp. 281-293. <https://www.jstor.org/stable/27821424>
- Nordman, Erik E. et al. "Benefit-Cost Analysis of Stormwater Green Infrastructure Practices for Grand Rapids, Michigan, USA." *Journal of Cleaner Production*, vol. 200, November 2018, pp. 501-510. <https://www.sciencedirect.com/science/article/abs/pii/S0959652618321413>
- Pincetl, Stephanie, et al. "Toward a Sustainable Los Angeles: A "Nature's Services" Approach." February 2003. <https://johnwilson.usc.edu/wp-content/uploads/2016/05/2003-Pincetl-Wolch-Wilson-Longcore.pdf>
- PolicyLink, All In Cities. "Community Benefits Agreements." Accessed September 2020. <https://allincities.org/toolkit/community-benefits-agreements>
- Poor, P. Joan, et al. "Exploring the Hedonic Value of Ambient Water Quality: A Local Watershed-Based Study." *Ecological Economics*, vol. 60, no. 4, Feb. 2007, pp. 797-806. doi:10.1016/j.ecolecon.2006.02.013.
- Raucher, Robert, and Janet Clements. "A Triple Bottom Line Assessment of Traditional and Green Infrastructure Options for Controlling CSO Events in Philadelphia's Watersheds." *Proceedings of the Water Environment Federation*, vol. 2010, no. 9, Jan. 2010, pp. 6776-804. doi:10.2175/193864710798207233.
- Roseen, Robert M., et al. "Economic and Adaptation Benefits of Low Impact Development." *Low Impact Development Technology: Implementation and Economics*, American Society of Civil Engineers, 2015, pp. 74-92. https://www.unh.edu/unhsc/sites/unh.edu.unhsc/files/pubs_specs_info/JEE%20FTL%203-30-12.b.pdf
- Shultz, Steven, and Nick Schmitz. *How Water Resources Limit and Promote Residential Housing Developments in Douglas County*. University of Nebraska at Omaha, Real Estate Research Center, April 2008. https://www.unomaha.edu/college-of-business-administration/finance-banking-real-estate/_files/Water_Study.pdf
- Thorsnes, Paul. "The Value of a Suburban Forest Preserve: Estimates from Sales of Vacant Residential Building Lots." *Land Economics*, vol. 78, no. 3 August 2002, pp. 426-441 DOI: 10.2307/3146900
- Tomalty, Ray, Bartek Komorowski, and Dany Doiron. *The Monetary Value of the Soft Benefits of Green Roofs*. Prepared for Canada Mortgage and Housing Corporation (CMHC). 2010. https://web.archive.org/web/20161020093820/http://www.greenroofs.org/resources/Monetary_Value_of_Soft_Benefits_of_Green_Roofs.pdf
- Trust for Public Land. *The Economic Benefits of Denver's Park and Recreation System*. July 2010. <https://www.tpl.org/sites/default/files/cloud.tpl.org/pubs/ccpe-denver-park-value-report.pdf>

U.S. Environmental Protection Agency. *Boone Boulevard Green Infrastructure Conceptual Design*, Atlanta GA. EPA 830-R-14-001. 2012. <https://www.epa.gov/sites/production/files/2015-10/documents/boone-blvd-report-508-report.pdf>

University of Minnesota, CREATE Initiative, "Green Gentrification." May 2019. <https://canvas.umn.edu/courses/136810/files/8231845/download> For more tools and information from the CREATE Initiative see <https://create.umn.edu/>

Urban Land Institute and Center for Sustainability and Economic Performance. *Harvesting the Value of Water: Stormwater, Green Infrastructure, and Real Estate*. 2017. <http://libraryarchives.metro.net/DPGTL/uli-urban-land-institute/2018-harvesting-the-value-of-water-stormwater-green-infrastructure-real-estate.pdf>

Voicu, Ioan, and Vicki Been. "The Effect of Community Gardens on Neighboring Property Values." *Real Estate Economics*, vol. 36, no. 2, 2008, pp. 241-283 https://furmancenter.org/files/publications/The_Effect_of_Community_Gardens.pdf

Wachter, Susan M., and Grace Wong. "What Is a Tree Worth? Green-City Strategies, Signaling and Housing Prices." *Real Estate Economics*, vol. 36, no. 2, June 2008, pp. 213-39. https://repository.upenn.edu/cgi/viewcontent.cgi?article=1036&context=real-estate_papers

Wachter, Susan. *The Determinants of Neighborhood Transformations in Philadelphia Identification and Analysis: The New Kensington Pilot Study*. 2004. <https://nkcrc.org/wp-content/uploads/2019/08/The-Determinants-of-Neighborhood-Transformations-in-Philadelphia-Identification-and-Analysis-The-New-Kensington-Pilot-Study-2004.pdf>

Ward, Bryce, et al. "The Effect of Low-Impact-Development on Property Values." *Proceedings of the Water Environment Federation*, vol. 2008, no. 6, Jan. 2008, pp. 318-23. <http://www.12000raingardens.org/wp-content/uploads/2013/03/The-Effect-of-Low-Income-Development-on-Property-Values.pdf>

Wolf, Anna. "Public Art Installations Meet Green Stormwater Infrastructure." Center for Neighborhood Technology Blog. September 2020. <https://www.cnt.org/blog/public-art-installations-meet-green-stormwater-infrastructure>

Wolf, K.L. "Community Economics - A Literature Review." *Green Cities: Good Health*. College of the Environment, University of Washington. 2010. https://depts.washington.edu/hhwb/Thm_Economics.html

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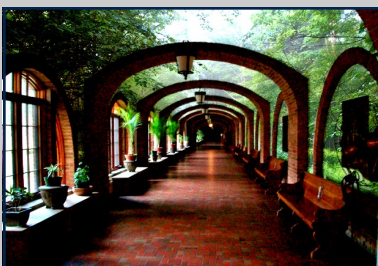
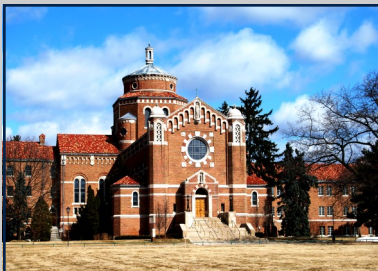
City of Livonia



MS4 Stormwater Discharge Application

Permit No: MIG610015

April 1, 2016



Submitted by:

The City of Livonia
12973 Farmington Road
Livonia, MI. 48150
734.466.2655

In Collaboration with:





State of Michigan

National Pollutant Discharge Elimination System

Permit Application for Discharge of Storm Water to Surface Waters of the State from a Municipal Separate Storm Sewer System

DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISION
PERMITS SECTION
TELEPHONE: 517-284-5568
FAX: 517-241-9003



Michigan Department of Environmental Quality – Water Resources Division
STORM WATER DISCHARGE PERMIT APPLICATION

PURPOSE AND AUTHORITY

The National Pollutant Discharge Elimination System (NPDES) Program protects the surface waters of the state by assuring that discharges of wastewater comply with state and federal regulations. Anyone discharging or proposing to discharge wastewater to the surface waters of the state are required to make application for and obtain a valid NPDES permit prior to wastewater discharge.

NPDES permits are required under Section 402 of the Federal Clean Water Act (the “Federal Act”), as amended (33 U.S.C. 1251 et seq., P.L. 92-500, 95-217), and under Part 31, Water Resources Protection, of Michigan’s “Natural Resources and Environmental Protection Act”, 1994 PA 451, as amended (NREPA). Part 31 of the NREPA also provides authority for the State to issue NPDES permits. The Michigan Department of Environmental Quality (DEQ) administers the NPDES permit program for the State of Michigan.

This Application should be used to apply for a storm water discharge from a regulated Municipal Separate Storm Sewer System (MS4) to the surface waters of the state.

ELIGIBLE PERMITTEES

Except as excluded below, any public body that owns or operates a regulated MS4 may be eligible for permit coverage including, but not limited to, the United States, the State of Michigan, a city, village, township, county, public school district, public college or university, a single purpose governmental agency, or any other governing body which is created by federal or state statute or law.

The DEQ will determine eligibility for permit coverage.

Nongovernmental entities, such as individuals, private schools, private colleges, and private universities, or industrial and commercial entities, are not eligible for permit coverage.

PENALTIES

The information in this Application is required by the Part 21 Rules of the NREPA. A municipality, business, or industry that violates the Part 21 Rules may be enjoined by action commenced by the Attorney General in a court of competent jurisdiction.

Federal and State laws provide penalties for submitting false application information. The laws imposing those penalties are cited below.

The Federal Act, Section 309(c)(4): “Any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this chapter or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained under this chapter, shall upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment shall be a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or by both.”

The NREPA, Section 3115(2): “A person who at the time of the violation knew or should have known that he or she discharged a substance contrary to this part, or contrary to a permit or order issued or rule promulgated under this part, or who intentionally makes a false statement, representation, or certification in an application form pertaining to a permit or in a notice or report required by the terms and conditions of an issued permit, or who intentionally renders inaccurate a monitoring device or record required to be maintained by the department, is guilty of a felony and shall be fined not less than \$2,500.00 or more than \$25,000.00 for each violation. The court may impose an additional fine of not more than \$25,000.00 for each day during which the unlawful discharge occurred. If the conviction is for a violation committed after a first conviction of the person under this subsection, the court shall impose a fine of not less than \$25,000.00 per day and not more than \$50,000.00 per day of violation. Upon conviction, in addition to a fine, the court, in its discretion may sentence the defendant to imprisonment for not more than 2 years or impose probation upon a person for a violation of this part. With the exception of the issuance of criminal complaints, issuance of warrants, and the holding of an arraignment, the circuit court for the county in which the violation occurred has exclusive jurisdiction. However, the person shall not be subject to the penalties of this subsection if the discharge of the effluent is in conformance with and obedient to a rule, order, or permit of the department. In addition to a fine, the attorney general may file a civil suit in a court of competent jurisdiction to recover the full value of the injuries done to the natural resources of the state and the costs of surveillance and enforcement by the state resulting from the violation.”

The Michigan Department of Environmental Quality will not discriminate against any individual or group on the basis of race, sex, religion, age, national origin, color, marital status, disability, or political beliefs. Questions or concerns should be directed to the Office of Personnel Services, P.O. Box 30473, Lansing, MI 48909.

Michigan Department of Environmental Quality – Water Resources Division
STORM WATER DISCHARGE PERMIT APPLICATION

Applicants for either new permit coverage or reissuance of a permit shall include all of the following requested information for Sections I-VIII.

SECTION I. APPLICANT NAME AND MAILING ADDRESS		Current Permit/COC Number (if applicable) MIG610015	
City of Livonia			
Additional Applicant Name Information			
Street Address or P.O. Box 12973 Farmington Road		e-mail drohrraff@ci.livonia.mi.us	
City or Village Livonia	State MI	ZIP Code 48150	
Telephone (with area code) 734-466-2200		FAX Number (with area code) 734-466-2660	

SECTION II. CONTACTS	☒ Application Contact ☒ Storm Water Program Manager ☒ Storm Water Billing	First Name Doug	Last Name Moore		
		Title Superintendent of Public Service		Business City of Livonia	
		Address 1 12973 Farmington Rd		Address 2	
		City Livonia		State MI	ZIP Code 48150
		Telephone (with area code) 734-466-2617	FAX (with area code) 734-466-2660		e-mail dmoore@ci.livonia.mi.us
		First Name		Last Name	
	☐ Application Contact ☐ Storm Water Program Manager ☐ Storm Water Billing	Title		Business	
		Address 1		Address 2	
		City		State	ZIP Code
		Telephone (with area code)	FAX (with area code)		e-mail
		First Name		Last Name	
		☐ Application Contact ☐ Storm Water Program Manager ☐ Storm Water Billing	Title		Business
	Address 1		Address 2		
	City		State	Zip Code	
	Telephone (with area code)		FAX (with area code)		e-mail

SECTION III.	
PERMIT ACTION REQUESTED:	
☐ New Authorization ☒ Reissuance of Previous Authorization ☐ Modification of Current Permit	

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SECTION IV. REGULATED AREA

Provide a map identifying the urbanized area within the applicant's jurisdictional boundary as defined by the 2010 Census. The regulated municipal separate storm sewer system (MS4) means an MS4 owned or operated by a city, village, township, county, district, association, or other public body created by or pursuant to state law and the nested MS4 identified in Section VI. that is located in an urbanized area and discharges storm water into surface waters of the state. The 2010 Census maps are located at http://www.michigan.gov/documents/deq/wrd-stormwater-urbanizedareas_374344_7.pdf

Location of Urbanized Area Map: *e.g., Attachment A* See Appendix A

SECTION V. OUTFALLS AND POINTS OF DISCHARGE

Identify and provide the surface water of the state that receives the discharge from each of the applicant's outfalls and points of discharge in Table 1 or an alternative format. Please note that an MS4 is not a surface water of the state. For example, an open county drain that is a surface water of the state is not an MS4.

Outfalls and Points of Discharge Location Reference: *e.g., Attachment B* See Appendix A

SECTION VI. NESTED JURISDICTIONS

Submit the name and general description of each nested MS4 for which a cooperative agreement has been reached to carry out the terms and conditions of the permit for the nested jurisdiction. The applicant shall be responsible for assuring compliance with the permit for those nested jurisdictions with which they have entered into an agreement and listed as part of the Application. If the primary jurisdiction and the nested jurisdiction agree to cooperate so that the terms and conditions of the permit are met for the nested MS4, the nested jurisdiction does not need to apply for a separate permit. A city, village, or township shall not be a nested jurisdiction.

NESTED JURISDICTION NAME AND GENERAL DESCRIPTION: The City has no nested jurisdictions.

SECTION VII. STORM WATER MANAGEMENT PROGRAM (SWMP)

This Application requires a description of the Best Management Practices (BMPs) the applicant will implement for each minimum control measure and the applicable water quality requirements during this permit cycle. The applicant shall incorporate the BMPs to develop a SWMP as part of the Application. The SWMP shall be developed, implemented, and enforced to reduce the discharge of pollutants from the MS4 to the Maximum Extent Practicable and protect water quality in accordance with the appropriate water quality requirements of the NREPA 451, Public Acts of 1994, Part 31, and the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 *et seq.*). The Maximum Extent Practicable may be met by implementing the BMPs identified in the SWMP and demonstrating the effectiveness of the BMPs. The applicant shall attach any appropriate and necessary documentation to demonstrate compliance with the six minimum control measures and applicable water quality requirements as part of the Application.

The applicant shall complete this Application to the best of its knowledge and ensure that it is true, accurate, and meets the minimum requirements for a SWMP to the Maximum Extent Practicable.

When answering the questions in this section of the Application, the applicant's MS4 encompasses what the applicant identified in Sections IV, V, and VI, above. The applicant shall include a measurable goal for each BMP. Each measurable goal shall include, as appropriate, a schedule for BMP implementation (months and years), including interim milestones and the frequency of the action. Each measurable goal shall have a measure of assessment to measure progress towards achieving the measurable goal. A United States Environmental Protection Agency (USEPA) guidance document on measurable goals is available at http://water.epa.gov/polwaste/npdes/swbmp/upload/measurablegoals.pdf#_ga=1.38737702.463004347.1438199466.

Several minimum control measures include a statement requesting the applicant to indicate in the response if you are, or will be, working collaboratively with watershed or regional partners on any or all activities to meet the minimum control measure requirements. If the applicant chooses to work collaboratively with watershed or regional partners to implement parts of the SWMP, each applicant will be responsible for complying with the minimum permit requirements.

For purposes of this Application, a procedure means a written process, policy or other mechanism describing how the applicant will implement minimum requirements. It may be helpful to read all questions in each section first.

Enforcement Response Procedure (ERP)

The applicant shall describe the current and proposed enforcement responses to address violations of the applicant's ordinances and regulatory mechanisms identified in the SWMP. The following question represents the minimum requirement for the ERP. Please complete the question below.

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1. Provide the ERP. The ERP shall include the applicant's expected response to violations to compel compliance with an ordinance or regulatory mechanism implemented by the applicant in the SWMP (e.g., written notices, citations, and fines). The ERP shall contain a method for tracking instances of non-compliance, including, as appropriate, the entity responsible for violating the applicant's ordinance or regulatory mechanism, the date and location of the violation, a description of the violation, a description of the enforcement response used, a schedule for returning to compliance, and the date the violation was resolved. The applicant may keep an electronic file or hard copy file of the enforcement tracking.

ERP Reference (page and paragraph of attachments): e.g., *Attachment A, Page 3, Section b.* See Appendix B

Public Participation/Involvement Program (PPP)

The applicant shall describe the current and proposed BMPs to meet the minimum control measure requirements for the PPP to the maximum extent practicable, which shall be incorporated into the SWMP. Please indicate in your response if you are, or will be, working collaboratively with watershed or regional partners on any or all activities in the PPP during the permit cycle (i.e., identify collaborative efforts in the procedures). The following questions represent the minimum control measure requirements for the PPP. Please complete all the questions below. A measurable goal with a measure of assessment shall be included for each BMP, and, as appropriate, a schedule for implementation (months and years), including interim milestones and the frequency of the BMP.

☒ Proposing to work collaboratively on any or all activities in the PPP during the permit cycle.

2. Provide the procedure for making the SWMP available for public inspection and comment. The procedure shall include a process for notifying the public when and where the SWMP is available and of opportunities to provide comment. The procedure shall also include a process for complying with local public notice requirements, as appropriate.

Procedure Reference (page and paragraph of attachments): e.g., *Attachment A, Page 3, Section b.* See Appendix C, Section B

3. Provide the procedure for inviting public involvement and participation in the implementation and periodic review of the SWMP.

Procedure Reference (page and paragraph of attachments): See Appendix C, Section D

Public Education Program (PEP)

The applicant shall describe the current and proposed BMPs to meet the minimum control measure requirements for the PEP to the maximum extent practicable, which shall be incorporated into the SWMP. Please indicate in your response if you are, or will be, working collaboratively with watershed or regional partners on any or all activities in the PEP during the permit cycle. The following questions represent the minimum requirements for the PEP. Please complete all the questions below. A measurable goal with a measure of assessment shall be included for each BMP, and, as appropriate, a schedule for implementation (months and years), including interim milestones and the frequency of the BMP. The responses shall reflect the nested MS4s identified in Section VI.

☒ Proposing to work collaboratively on any or all activities in the PEP during the permit cycle.

4. Provide the procedure with the assessment of high priority, community-wide issues and targeted issues to reduce pollutants in storm water runoff as part of the PEP. The assessment shall include a list of the priority issues.

☒ Procedure Reference (page and paragraph of attachments): e.g., *Attachment A, Page 3, Section b* See Appendix D, Section A

☐ Not applicable – PEP topics will not be prioritized.

5. The applicant shall identify applicable PEP topics below and, if prioritizing topics, prioritize based on the assessment in Question 4. The PEP topics may be prioritized as high, medium, and low or in order from 1-11 based on the assigned priority level (e.g., 1 being the highest priority topic and 11 being the lowest priority topic). For each applicable topic, identify the target audience; key message; delivery mechanism; year and frequency the BMP will be implemented; and the responsible party.

For each topic below, complete one or more of the following

- Fill out Table 2 for each applicable PEP topic.
- Reference the page number in your existing PEP document.
- Explain why the PEP activity is not applicable or a priority issue.

A. Promote public responsibility and stewardship in the applicant's watershed(s).

Priority Ranking High

☒ See Table 2

☒ Attach existing approved PEP (page and paragraph of attachments): Appendix D, Section C

☐ Not applicable. Provide explanation below.

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- B. Inform and educate the public about the connection of the MS4 to area waterbodies and the potential impacts discharges could have on surface waters of the state.

Priority Ranking _____

☒ See Table 2

☒ Attach existing approved PEP (page and paragraph of attachments): **Appendix D, Section C**

☐ Not applicable. Provide explanation below.

- C. Educate the public on illicit discharges and promote public reporting of illicit discharges and improper disposal of materials into the MS4.

Priority Ranking _____

☒ See Table 2

☒ Attach existing approved PEP (page and paragraph of attachments): **Appendix D, Section C**

☐ Not applicable. Provide explanation below.

- D. Promote preferred cleaning materials and procedures for car, pavement, and power washing.

Priority Ranking _____

☒ See Table 2

☒ Attach existing approved PEP (page and paragraph of attachments): **Appendix D, Section C**

☐ Not applicable. Provide explanation below.

- E. Inform and educate the public on proper application and disposal of pesticides, herbicides, and fertilizers.

Priority Ranking _____

☒ See Table 2

☒ Attach existing approved PEP (page and paragraph of attachments): **Appendix D, Section C**

☐ Not applicable. Provide explanation below.

- F. Promote proper disposal practices for grass clippings, leaf litter, and animal wastes that may enter into the MS4.

Priority Ranking High

☒ See Table 2

☒ Attach existing approved PEP (page and paragraph of attachments): **Appendix D, Section C**

☐ Not applicable. Provide explanation below.

High

- G. Identify and promote the availability, location, and requirements of facilities for collection or disposal of household hazardous wastes, travel trailer sanitary wastes, chemicals, and motor vehicle fluids.

Priority Ranking High

☒ See Table 2

☒ Attach existing approved PEP (page and paragraph of attachments): **Appendix D, Section C**

☐ Not applicable. Provide explanation below.

High

- H. Inform and educate the public on proper septic system care and maintenance, and how to recognize system failure.

Priority Ranking High

☒ See Table 2

☒ Attach existing approved PEP (page and paragraph of attachments): **Appendix D, Section C**

☐ Not applicable. Provide explanation below.

High

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- I. Educate the public on, and promote the benefits of, green infrastructure and Low Impact Development.

Priority Ranking ~~High~~

☒ See Table 2

☒ Attach existing approved PEP (page and paragraph of attachments): Appendix D, Section C

☐ Not applicable. Provide explanation below.

High

- J. Identify and educate commercial, industrial, and institutional entities likely to contribute pollutants to storm water runoff.

Priority Ranking ~~Low~~

☒ See Table 2

☒ Attach existing approved PEP (page and paragraph of attachments): Appendix D, Section C

☐ Not applicable. Provide explanation below.

Low

6. Provide the procedure for evaluating and determining the effectiveness of the overall PEP. The procedure shall include a method for assessing changes in public awareness and behavior resulting from the implementation of the PEP and the process for modifying the PEP to address ineffective implementation.

Procedure Reference (page and paragraph of attachments): Appendix D, Section D

Illicit Discharge Elimination Program (IDEP)

The applicant shall describe the current and proposed BMPs to meet the minimum control measure requirements for the IDEP to the Maximum Extent Practicable, which shall be incorporated into the SWMP. Please indicate in your response if you are or will be working collaboratively with watershed or regional partners on any or all BMPs in the IDEP during the permit cycle (e.g., identify collaborative efforts in the procedures). The following questions represent the minimum control measure requirements for the IDEP. Please complete all the questions below. A measurable goal with a measure of assessment shall be included for each BMP, and, as appropriate, a schedule for implementation (months and years), including interim milestones and the frequency of the BMP. The responses shall reflect the nested MS4s identified in Section VI.

The following definitions apply to the terms used below:

- **Illicit Discharge:** Any discharge to, or seepage into, an MS4 that is not composed entirely of storm water or uncontaminated groundwater except discharges pursuant to an NPDES permit. A discharge that originates from the applicant's property and meets the illicit discharge definition is considered an illicit discharge.
- **Illicit Connection:** A physical connection to an MS4 that primarily conveys non-storm water discharges other than uncontaminated groundwater into the MS4; or a physical connection not authorized or permitted by the local authority, where a local authority requires authorization or a permit for physical connections.

The following resources are available to assist with the development of an IDEP.

- The MDEQ has an IDEP Compliance Assistance Document available at http://michigan.gov/documents/deg/wrd-storm-MS4-IDEP-ComplianceAssistance_473378_7.pdf.
- The Center for Watershed Protection has a guide available at http://water.epa.gov/polwaste/npdes/stormwater/upload/idde_manualwithappendices.pdf#_ga=1.139876918.463004347.1438199466.

☒ Proposing to work collaboratively on any or all BMPs in the IDEP during the permit cycle.

Storm Sewer System Map

7. Provide the location where an up-to-date storm sewer system map(s) is available. The map(s) shall identify the following: the storm sewer system, the location of all outfalls and points of discharge, and the names and location of the surface waters of the state that receive discharges from the permittee's MS4 (for both outfalls and points of discharge). A separate storm sewer system includes: roads, catch basins, curbs, gutters, parking lots, ditches, conduits, pumping devices, and man-made channels. A storm sewer system map(s) may include available diagrams, such as certification maps, road maps showing rights-of-way, as-built drawings, or other hard copy or digital representation of the storm sewer system.

The map (or maps) is available at the following location: *e.g., The Department of Public Works front office* _____

The Department of Public Works front office at 12973 Farmington Road

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Illicit Discharge Identification and Investigation

8. Provide the procedure for prioritizing the applicant's MS4 for detecting non-storm water discharges. The goal of the prioritization process is to target areas with high illicit discharge potential. The procedure shall document the process for selecting each priority area using the list below.
- Areas with older infrastructure
 - Industrial, commercial, or mixed use areas
 - Areas with a history of past illicit discharges
 - Areas with a history of illegal dumping
 - Areas with septic systems
 - Areas with older sewer lines or with a history of sewer overflows or cross-connections
 - Areas with sewer conversions or historic combined sewer systems
 - Areas with poor dry-weather water quality
 - Areas with water quality impacts, including waterbodies identified in a Total Maximum Daily Load
 - Priority areas applicable to the applicant not identified above

☒ Procedure Reference (page and paragraph of attachments): e.g., Attachment A, Page 3, Section b See Appendix E, Section C
☐ Not applicable – The applicant will perform illicit discharge identification and investigation throughout the entire MS4. Skip to Question 10.

9. Provide the geographical location of each prioritized area using either a narrative description or map and identify the prioritized areas that will be targeted during the permit cycle.

IDEP Prioritized Areas (page and paragraph of attachments): See Appendix E, Section C

10. Provide the procedure for performing field observations at all outfalls and points of discharge in the priority areas as identified in the procedure above or for the entire MS4 during dry-weather at least once during the permit cycle. The procedure shall include a schedule for completing the field observations during the permit cycle or more expeditiously if the applicant becomes aware of a non-storm water discharge. *As part of the procedure, the applicant may submit an interagency agreement with the owner or operator of the downstream MS4 identifying responsibilities for ensuring an illicit discharge is eliminated if originating from the applicant's point(s) of discharge. The interagency agreement would eliminate the requirement for performing a field observation at that point(s) of discharge. Areas not covered by the interagency agreement shall be identified with a schedule for performing field observations included in the procedure.*

The focus of the field observation shall be to observe the following:

- | | |
|--|-----------------------|
| • Presence/absence of flow | • Water clarity |
| • Deposits/stains on the discharge structure or bank | • Color |
| • Vegetation condition | • Odor |
| • Structural condition | • Floatable materials |
| • Biology, such as bacterial sheens, algae, and slimes | |

Procedure Reference (page and paragraph of attachments): See Appendix E, Section D

11. Provide the procedure for performing field screening if flow is observed at an outfall or point of discharge and the source of an illicit discharge is not identified during the field observation. Field screening shall include analyzing the discharge for indicator parameters (e.g., ammonia, fluoride, detergents, and pH). The procedure shall include a schedule for performing field screening.

Procedure Reference (page and paragraph of attachments): See Appendix E, Section D

12. Provide the procedure for performing a source investigation if the source of an illicit discharge is not identified by field screening. The procedure shall include a schedule for performing a source investigation.

Procedure Reference (page and paragraph of attachments): See Appendix E, Section D

13. Provide the procedure for responding to illegal dumping/spills. The procedure shall include a schedule for responding to complaints, performing field observations, and follow-up field screening and source investigations as appropriate.

Procedure Reference (page and paragraph of attachments): See Appendix E, Section D

14. Provide the procedure for responding to illicit discharges upon becoming aware of such a discharge outside of the priority areas. The procedure shall include a schedule for performing field observations, and follow-up field screening and source investigations as appropriate.

☒ Procedure Reference (page and paragraph of attachments): See Appendix E, Section D
☐ Not applicable – Field observations will be conducted at all outfalls and points of discharge

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15. Provide the procedure that includes a requirement to immediately report any release of any polluting materials from the MS4 to the surface waters or groundwaters of the state, unless a determination is made that the release is not in excess of the threshold reporting quantities in the [Part 5 Rules](#), by calling the appropriate [MDEQ District Office](#), or if the notice is provided after regular working hours call the MDEQ's 24-Hour Pollution Emergency Alerting System telephone number: 800-292-4706. *(Example threshold reporting quantities: a release of 50 pounds of salt in solid form or 50 gallons in liquid form to waters of the state unless authorized by the MDEQ for deicing or dust suppressant.)*

Procedure Reference (page and paragraph of attachments): See Appendix H, Spill Response Procedure, Section C

16. If the procedures requested in Questions 8 through 14 do not accurately reflect the applicant's procedure(s), describe the alternative approach to meet the minimum requirements.

This Collaborative and Alternative approach meets and/or exceeds the expected results from minimum control measure requirements as described in Attachment E, Section B.

☒ Not applicable

17. Provide the procedure for responding to illicit discharges once the source is identified. The procedure shall include a schedule to eliminate the illicit discharge and pursue enforcement actions. The procedure shall also address illegal spills/dumping.

Procedure Reference (page and paragraph of attachments): See Appendix E, Section E

IDEP Training and Evaluation

18. Provide the program to train staff employed by the applicant, who, as part of their normal job responsibilities, may come into contact with or otherwise observe an illicit discharge to the regulated MS4, on the following topics. The program shall include a training schedule for this permit cycle. *It is recommended that staff be trained more than once per permit cycle.*

- Techniques for identifying an illicit discharge or connection, including field observation, field screening, and source investigation.
- Procedures for reporting, responding to, and eliminating an illicit discharge or connection and the proper enforcement response.
- The schedule and requirement for training at least once during the term of this permit cycle for existing staff and within the first year of hire for new staff.

Program Reference (page and paragraph of attachments): See Appendix E, Section D

19. Provide the procedure for evaluating and determining the overall effectiveness of the IDEP. The procedure shall include a schedule for implementation. *Examples of evaluating overall effectiveness include, but are not limited to, the following: evaluate the prioritization process to determine if efforts are being maximized in areas with high illicit discharge potential; evaluate the effectiveness of using different detection methods; evaluate the number of discharges and/or quantity of discharges eliminated using different enforcement methods; and evaluate program efficiency and staff training frequency.*

Procedure Reference (page and paragraph of attachments): See Appendix E, Section F

Illicit Discharge Ordinance or Other Regulatory Mechanism

20. Provide the ordinance or regulatory mechanism in effect that prohibits non-storm water discharges into the applicant's MS4 (except the non-storm water discharges addressed in Questions 21 and 22).

Ordinance number(s) or regulatory mechanism title(s) (attach a copy): See Appendix E, Attachment E, Table 1

21. Does the ordinance or other regulatory mechanism exclude prohibiting the discharges or flows from firefighting activities to the applicant's MS4 and require that these discharges or flows only be addressed if they are identified as significant sources of pollutants to waters of the State? The ordinance shall not authorize illicit discharges; however, the applicant may choose to exclude prohibiting the discharges and flows from firefighting activities if they are identified as not being significant sources of pollutants to waters of the state.

☒ Yes, ordinance or regulatory mechanism reference (page and paragraph of attachments): See Appendix E, Attachment E, Table 1
☐ Not applicable – All non-storm water discharges into the applicant's MS4 will be prohibited.

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22. Does the ordinance or other regulatory mechanism prohibit the following categories of non-storm water discharges or flows if identified as significant contributors to violations of Water Quality Standards? The ordinance shall not authorize illicit discharges; however, the applicant may choose to exclude prohibiting the following discharges or flows if they are identified as not being a significant contributor to violations of Water Quality Standards.

- a. Water line flushing and discharges from potable water sources
- b. Landscape irrigation runoff, lawn watering runoff, and irrigation waters
- c. Diverted stream flows and flows from riparian habitats and wetlands
- d. Rising groundwaters and springs
- e. Uncontaminated groundwater infiltration and seepage
- f. Uncontaminated pumped groundwater, except for groundwater cleanups specifically authorized by NPDES permits
- g. Foundation drains, water from crawl space pumps, footing drains, and basement sump pumps
- h. Air conditioning condensation
- i. Waters from noncommercial car washing
- j. Street wash water
- k. Dechlorinated swimming pool water from single, two, or three family residences. (A swimming pool operated by the permittee shall not be discharged to a separate storm sewer or to surface waters of the state without NPDES permit authorization from the MDEQ.)

☒ Yes, ordinance or regulatory mechanism reference (page and paragraph of attachments): See Appendix E, Attachment E, Table 1
☐ Not applicable – All non-storm water discharges into the applicant's MS4 will be prohibited.

23. Provide the ordinance or regulatory mechanism that regulates the contribution of pollutants to the applicant's MS4.

Ordinance or regulatory mechanism reference (page and paragraph of attachments): See Appendix E, Attachment E, Table 1

24. Provide the ordinance or regulatory mechanism that prohibits illicit discharges, including illicit connections and the direct dumping or disposal of materials into the applicant's MS4.

Ordinance or regulatory mechanism reference (page and paragraph of attachments): See Appendix E, Attachment E, Table 1

25. Provide the ordinance or regulatory mechanism with the authority established to inspect, investigate, and monitor suspected illicit discharges into the applicant's MS4.

Ordinance or regulatory mechanism reference (page and paragraph of attachments): See Appendix E, Attachment E, Table 1

26. Provide the ordinance or regulatory mechanism that requires and enforces elimination of illicit discharges into the applicant's MS4, including providing the applicant the authority to eliminate the illicit discharge.

Ordinance or regulatory mechanism reference (page and paragraph of attachments): See Appendix E, Attachment E, Table 1

Construction Storm Water Runoff Control Program

The applicant shall describe the current and proposed BMPs to meet the minimum control measure requirements for the construction storm water runoff control program to the maximum extent practicable, which shall be incorporated into the SWMP. Please indicate in your response if you are or will be working collaboratively with watershed or regional partners on any or all requirements of this program during the permit cycle. The following questions represent the minimum control measure requirements for the construction storm water runoff control program. Please complete all the questions below. A measurable goal with a measure of assessment shall be included for each BMP, and, as appropriate, a schedule for implementation (months and years), including interim milestones and the frequency of the BMP. The responses shall reflect the nested MS4s identified in Section VI.

☐ Proposing to work collaboratively on any or all requirements of the Construction Storm Water Runoff Control Program during the permit cycle.

Qualifying Local Soil Erosion and Sedimentation Control Programs

27. Is the applicant a Part 91 Agency? A list of Part 91 agencies is available at http://www.michigan.gov/deq/0,4561,7-135-3311_4113-8870--,00.html.

Yes. Choose type: ☐ County Enforcing Agency ☒ Municipal Enforcing Agency ☐ Authorized Public Agency

☐ No, the applicant relies on the following Qualifying Local Soil Erosion and Sedimentation Control Program (Part 91 Agency)

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Construction Storm Water Runoff Control

28. Provide the procedure with the process for notifying the Part 91 Agency or appropriate staff when soil or sediment is discharged to the applicant's MS4 from a construction activity, including the notification timeframe. The procedure shall allow for the receipt and consideration of complaints or other information submitted by the public or identified internally as it relates to construction storm water runoff control. For non-Part 91 agencies, consideration of complaints may include referring the complaint to the qualifying local Soil Erosion and Sedimentation Control Program as appropriate. Construction activity is defined pursuant to Part 21, Wastewater Discharge Permits, Rule 323.2102 (K). The applicant may consider as part of their procedure when and under what circumstances the Part 91 Agency or appropriate staff will be contacted.

Procedure Reference (page and paragraph of attachments): *e.g., Attachment A, Page 3, Section b* Appendix F, Section C

29. Provide the procedure for when to notify the MDEQ when soil, sediment, or other pollutants are discharged to the applicant's MS4 from a construction activity, including the notification timeframe. Other pollutants include pesticides, petroleum derivatives, construction chemicals, and solid wastes that may become mobilized when land surfaces are disturbed. The applicant may consider as part of their procedure when and under what circumstances the MDEQ will be contacted.

Procedure Reference (page and paragraph of attachments): Appendix F, Section E

30. Provide the procedure for ensuring that construction activity one acre or greater in total earth disturbance with the potential to discharge to the applicant's MS4 obtains a Part 91 permit, or is conducted by an approved Authorized Public Agency as appropriate. Note: For applicants that conduct site plan review, the procedure must be triggered at the site plan review stage.

Procedure Reference (page and paragraph of attachments): Appendix F, Section B

31. Provide the procedure to advise the landowner or recorded easement holder of the property where the construction activity will occur of the State of Michigan Permit by Rule (Rule 323.2190).

Procedure Reference (page and paragraph of attachments): Appendix F, Section F

Post-Construction Storm Water Runoff Program

Post-construction storm water runoff controls are necessary to maintain or restore stable hydrology in receiving waters by limiting surface runoff rates and volumes and reducing pollutant loadings from sites that undergo development or significant redevelopment.

The applicant shall describe the current and proposed BMPs to meet the minimum control measure requirements for the post-construction storm water runoff program to the maximum extent practicable, which shall be incorporated into the SWMP. Please complete the questions below as appropriate. If the "No" response is selected but a date is requested for the minimum requirement to be available, please provide a date to meet the minimum requirement. All dates provided by the applicant in this Application should be on or before **October 1, 2016**. Some questions are set up to allow for additional responses to meet the minimum requirements. If space is not available for an additional response, then the minimum requirement must be met in accordance with the question. A measurable goal with a measure of assessment shall be included for each BMP, and, as appropriate, a schedule for implementation (months and years), including interim milestones and the frequency of the BMP. The responses shall reflect the nested MS4s identified in Section VI.

An applicant may reference in its ordinance or regulatory mechanism other technical documents used to implement the post-construction storm water runoff program. For example, an applicant may answer a question with a reference to a performance or technical standards document in the ordinance **and** the reference in the technical document. When referencing the ordinance, regulatory mechanism, or other technical documents, attach the document and provide the page and paragraph reference.

The MDEQ has the following resources available to assist with development of a Post-Construction Storm Water Runoff Program.

- A Post-Construction Storm Water Runoff Program Compliance Assistance Document available at www.michigan.gov/documents/deq/wrd-storm-MS4-ComplianceAssistance_470350_7.pdf
- A manual titled *Low Impact Development Manual for Michigan* available at <http://www.semcog.org/LowImpactDevelopment.aspx>. Chapter 9 of the manual provides a methodology for addressing post-construction storm water runoff.

Ordinance or Other Regulatory Mechanism

32. Is an ordinance or other regulatory mechanism in effect to address post-construction storm water runoff from new development and redevelopment projects, including preventing or minimizing water quality impacts? The ordinance or other regulatory mechanism shall apply to private, commercial, and public projects, including projects where the applicant is the developer. This requirement may be met using a single ordinance or regulatory mechanism or a combination of ordinances and regulatory mechanisms.

☒ Yes, ordinance or regulatory mechanism reference (page and paragraph of attachments): *e.g., Attachment A, Pages 1-15* See Appendix G
☐ No, the ordinance or regulatory mechanism will be available on _____

33. Does the ordinance or other regulatory mechanism apply to projects that disturb at least one or more acres, including projects less than an acre that are part of a larger common plan of development or sale and discharge into the applicant's MS4?

☒ Yes, ordinance or regulatory mechanism reference (page and paragraph of attachments): See Appendix G
☐ No, the ordinance or regulatory mechanism will be available on _____

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Federal Facilities

Federal facilities are subject to the Energy Independence and Security Act of 2007. Section 438 of this legislation establishes post-construction storm water runoff requirements for federal development and redevelopment projects.

34. Is the applicant the owner or operator of a federal facility with a storm water discharge?

- ☐ Yes
☒ No, skip to Question 36

35. Is the applicant implementing the post-construction storm water runoff control requirements in Section 438 of the Energy Independence and Security Act? A guidance document is available at

http://www.epa.gov/greeningepa/documents/epa_swm_guidance.pdf

- ☐ Yes, regulatory mechanism reference (page and paragraph of attachments): _____
☐ No, the regulatory mechanism will be available on _____

Water Quality Treatment Performance Standard

36. Does the ordinance or other regulatory mechanism include one or more of the following water quality treatment standards?

- ☐ Treat the first one inch of runoff from the entire project site. Ordinance or other regulatory mechanism reference (page and paragraph of attachments) _____ Skip to Question 38.
☒ Treat the runoff generated from 90 percent of all runoff-producing storms for the project site. Ordinance or other regulatory mechanism reference (page and paragraph of attachments) See Wayne County Storm Water Management Standards, Chapter 6
☐ No, the ordinance or other regulatory mechanism will be available on _____
☐ The ordinance or other regulatory mechanism is/will be available on _____ and includes the following water quality treatment standard. Provide an explanation as to how the water quality treatment standard will prevent or minimize water quality impacts.

37. What is the source of the rainfall data if the applicant has chosen the water quality treatment standard of requiring the treatment of the runoff generated from 90 percent of all runoff-producing storms?

- ☐ The MDEQ's memo dated March 24, 2006 providing the 90 percent annual non-exceedance storm statistics. The memo is available at http://www.michigan.gov/documents/deq/lwm-hsu-nps-ninety-percent_198401_7.pdf.
☐ An analysis of at least ten years of local published rain gauge data following the method in the March 25, 2006, MDEQ memo titled *90 Percent Annual Non-Exceedance Storms* cited above.
☒ Other rainfall data source (page and paragraph of attachments) See Wayne County Storm Water Management Standards, Chapter 6

38. Does the ordinance or other regulatory mechanism require that BMPs be **designed** on a site-specific basis to reduce post-development total suspended solids loadings by 80 percent or achieve a discharge concentration of total suspended solids not to exceed 80 milligram per liter?

- ☐ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____
☐ No, the ordinance or other regulatory mechanism will be available on _____
☒ The ordinance or other regulatory mechanism defines treatment as follows:

See Wayne County Storm Water Management Standards, Chapter 6

Channel Protection Performance Standard

39. Does the ordinance or other regulatory mechanism require that the post-construction runoff rate and volume of discharges not exceed the pre-development rate and volume for all storms up to the two-year, 24-hour storm at the project site? At a minimum, pre-development is the last land use prior to the planned new development or redevelopment. A spreadsheet to assist with these calculations is available at www.michigan.gov/documents/deq/wb-storm-MS4-RunoffVolume_331235_7.xls

- ☒ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): See Wayne County Storm Water Management Standards, Chapter 8
☐ No, the ordinance or other regulatory mechanism will be available on _____
☐ The ordinance or other regulatory mechanism is/will be available on _____ and includes the following channel protection standard. Provide an explanation as to how the channel protection standard will prevent or minimize water quality impacts.

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40. Does the ordinance or other regulatory mechanism exclude any waterbodies from the channel protection performance standard? The channel protection performance standard is not required for the following waterbodies: the Great Lakes or connecting channels of the Great Lakes; Rouge River downstream of the Turning Basin; Saginaw River; Mona Lake and Muskegon Lake (Muskegon County); and Lake Macatawa and Spring Lake (Ottawa County).

☐ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____
☐ No, the ordinance or other regulatory mechanism will be available on _____
☒ Not applicable

Site-Specific Requirements

41. Provide the procedure for reviewing the use of infiltration BMPs to meet the water quality treatment and channel protection standards for new development or redevelopment projects in areas of soil or groundwater contamination in a manner that does not exacerbate existing conditions. The procedure shall include the process for coordinating with MDEQ staff as appropriate.

Procedure Reference (page and paragraph of attachments): See Wayne County Storm Water Management Standards, Chapter 8

42. Does the ordinance or other regulatory mechanism require BMPs to address the associated pollutants in potential hot spots as part of meeting the water quality treatment and channel protection standards for new development or redevelopment projects? Hot spots include areas with the potential for significant pollutant loading such as gas stations, commercial vehicle maintenance and repair, auto recyclers, recycling centers, and scrap yards. Hot spots also include areas with the potential for contaminating public water supply intakes.

☒ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): See Wayne County Storm
☐ No, the ordinance or other regulatory mechanism will be available on _____ Water Management Standards, Chapter 4

Off-Site Mitigation and Payment in Lieu Programs

43. Does the ordinance or other regulatory mechanism allow for the approval of off-site mitigation for redevelopment projects that cannot meet 100 percent of the performance standards on-site after maximizing storm water retention? Off-site mitigation refers to BMPs implemented at another location within the same jurisdiction and watershed/sewershed as the original project. *A watershed is the geographic area included in a 10-digit Hydrologic Unit Code and a sewershed is the area where storm water is conveyed by the applicant's MS4 to a common outfall or point of discharge.*

☐ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____
☐ No, the ordinance or other regulatory mechanism will be available on _____
☒ Not pursuing this option

44. Does the ordinance or other regulatory mechanism allow for the approval of payment in lieu for projects that cannot meet 100 percent of the performance standards on-site after maximizing storm water retention? A payment in lieu program refers to a developer paying a fee to the applicant that is applied to a public storm water management project within the same jurisdiction and watershed/sewershed as the original project in lieu of installing the required BMPs onsite. The storm water management project may be either a new BMP or a retrofit to an existing BMP and shall be developed in accordance with the applicant's performance standards. *A watershed is the geographic area included in a 10-digit Hydrologic Unit Code and a sewershed is the area where storm water is conveyed by the applicant's MS4 to a common outfall or point of discharge.*

☐ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____
☐ No, the ordinance or other regulatory mechanism will be available on _____
☒ Not pursuing this option. If "not pursuing this option" was selected for both Questions 43 and 44, skip to Question 52.

45. Does the ordinance or other regulatory mechanism establish criteria for determining the conditions under which off-site mitigation and/or payment in lieu are available and require technical justification as to the infeasibility of on-site management? The determination that performance standards cannot be met on-site shall not be based solely on the difficulty or cost of implementing, but shall be based on multiple criteria related to the physical constraints of the project site, such as: too small of a lot outside of the building footprint to create the necessary infiltrative capacity even with amended soils; soil instability as documented by a thorough geotechnical analysis; a site use that is inconsistent with the capture and reuse of storm water; too much shade or other physical conditions that preclude adequate use of plants. The criteria shall also include consideration of the stream order and location within the watershed/sewershed as it relates to the water quality impacts from the original project site (*e.g., the water quality impact from a project site with a discharge to a small-sized stream would be greater than a project site on a large river and an offset downstream of the project site may provide less water quality benefit.*) The highest preference for off-site mitigation and in lieu projects shall be given to locations that yield benefits to the same receiving water that received runoff from the original project site.

☐ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____
☐ No, the ordinance or other regulatory mechanism will be available on _____

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46. Does the ordinance or other regulatory mechanism establish a minimum amount of storm water to be managed on-site as a first tier for off-site mitigation or payment in lieu? A higher offset ratio is required if off-site mitigation or payment in lieu is requested for the amount of storm water identified as the first tier. *For example, a minimum of 0.4 inches of storm water runoff shall be managed on-site as a first tier.*

☐ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____

☐ No, the ordinance or other regulatory mechanism will be available on _____

☐ The ordinance or other regulatory mechanism requires the following:

47. Does the ordinance or other regulatory mechanism require an offset ratio of 1:1.5 for the amount of storm water above the first tier (identified in Question 46) not managed on-site to the amount of storm water required to be mitigated at another site or for which in-lieu payments shall be made?

☐ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____

☐ No, the ordinance or other regulatory mechanism will be available on _____

☐ The ordinance or other regulatory mechanism requires the following:

48. Does the ordinance or other regulatory mechanism require that if demonstrated by the developer to the applicant that it is completely infeasible to manage the first tier of storm water identified in Question 47 on-site, the offset ratio for the unmanaged portion is 1:2?

☐ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____

☐ No, the ordinance or other regulatory mechanism will be available on _____

☐ The ordinance or other regulatory mechanism requires the following:

49. Does the ordinance or other regulatory mechanism require a schedule for completing off-site mitigation and in-lieu projects? *Off-site mitigation and in-lieu projects should be completed within 24 months after the start of the original project site construction.*

☐ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____

☐ No, the ordinance or other regulatory mechanism will be available on _____

☐ The ordinance or other regulatory mechanism requires the following:

50. Does the ordinance or other regulatory mechanism require that offsets and in-lieu projects be preserved and maintained in perpetuity, such as deed restrictions and long-term operation and maintenance?

☐ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____

☐ No, the ordinance or other regulatory mechanism will be available on _____

☐ The ordinance or other regulatory mechanism requires the following:

51. Describe the tracking system implemented, or to be implemented, to track off-site mitigation and/or in-lieu projects.

52. Are there any other exceptions to the performance standards, other than off-site mitigation and payment in lieu, being implemented or to be implemented during the permit cycle? The applicant shall demonstrate how the exception provides an equivalent or greater level of protection as the performance standards.

☐ Yes, demonstration reference (page and paragraph of attachments): _____ ☒ No

Site Plan Review

53. Does the ordinance or other regulatory mechanism include a requirement to submit a site plan for review and approval of post-construction storm water runoff BMPs?

☒ Yes, ordinance or regulatory mechanism reference (page and paragraph of attachments): See Appendix G and Ordinance

☐ No, the ordinance or regulatory mechanism will be available on _____

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54. Provide the procedure for site plan review and approval.

Procedure Reference (page and paragraph of attachments): Appendix G, City of Livonia Site Plan Design Standards, Section I, Part A

55. Provide the reference in the site plan review and approval procedure to the process for determining how the developer meets the performance standards and ensures long-term operation and maintenance of BMPs.

Procedure Reference (page and paragraph of attachments): Appendix G, City of Livonia Site Plan Design Standards, Section I, Part A

Long-Term Operation and Maintenance of BMPs

56. Does the ordinance or other regulatory mechanism require the long-term operation and maintenance of all structural and vegetative BMPs installed and implemented to meet the performance standards in perpetuity?

- ☒ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): Appendix G, City of Livonia Site
☐ No, the ordinance or other regulatory mechanism will be available on _____ Plan Design Standards, Section I, Part A

57. Does the ordinance or other regulatory mechanism require a maintenance agreement between the applicant and owners or operators responsible for the long-term operation and maintenance of structural and vegetative BMPs installed and implemented to meet the performance standards?

- ☒ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): Appendix G, City of Livonia Site
☐ No, the ordinance or other regulatory mechanism will be available on _____ Plan Design Standards, Section I, Part A
☐ The ordinance or other regulatory mechanism requires the following:

58. Does the maintenance agreement or other legal mechanism allow the applicant to complete the following? (Check if yes)

- ☐ Inspect the structural or vegetative BMP
☐ Perform the necessary maintenance or corrective actions neglected by the BMP owner or operator
☐ Track the transfer of operation and maintenance responsibility of the BMP (e.g., deed restrictions)

If any of the boxes above were not checked, provide a response explaining how the maintenance agreement or other legal mechanism allows the applicant to verify and ensure maintenance of the BMP.

See Wayne County Storm Water Management Standards, Chapter 9

59. Provide the procedure for tracking compliance with a maintenance agreement or other legal mechanism to ensure the performance standards are met in perpetuity.

Procedure Reference (page and paragraph of attachments): See Wayne County Storm Water Management Standards, Chapter 9

Pollution Prevention and Good Housekeeping Program

The applicant shall describe the current and proposed BMPs to meet the minimum control measure requirements for the Pollution Prevention and Good Housekeeping Program to the maximum extent practicable, which shall be incorporated into the SWMP. The applicant shall develop and implement a Pollution Prevention and Good Housekeeping Program to prevent or reduce the discharge of pollutants from municipal facilities and operations.

The following definitions apply to the terms used below:

- Fleet: A group of vehicles owned or operated as a unit.
- Maintenance (includes, but not limited to): adding/changing vehicle fluids, fueling, lubrication, painting, mechanical repairs, parts degreasing, and vehicle/equipment washing.
- Storage Yard (includes, but not limited to): areas where vehicles are stored longer than overnight/weekend; areas where road maintenance materials are stored; areas where vehicle maintenance materials are stored; areas where chemicals in bulk are stored; areas where catch basin cleaning wastes are stored; and areas where maintenance equipment such as mowers, tractors, vactor trucks, and sweepers is stored.

Please complete the questions below as appropriate. A "Not Applicable" response is appropriate in cases where the applicant does not own or operate a municipal facility or storm water structural control or does not perform the operation in the question. A measurable goal with a measure of assessment shall be included for each BMP, and, as appropriate, a schedule for implementation (months and years), including interim milestones and the frequency of the BMP. The responses shall reflect the nested MS4s identified in Section VI.

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Municipal Facility and Structural Storm Water Control Inventory

60. Provide an up-to-date inventory of applicant-owned or operated facilities and storm water structural controls with a discharge of storm water to surface waters of the state. The inventory shall include the location of each facility. **Provide an estimate of the number of structural storm water controls throughout the entire MS4 for each applicable category below (e.g., 100 catch basins and 7 detention basins).**

Inventory Reference (Page and Paragraph of Attachments): e.g., *Attachment A, Page 3, Section b* Appendix H - P2GH, Section D, Table 1

Check all applicant-owned or operated facilities with a discharge of storm water to surface waters of the state:

- | | |
|--|--|
| ☒ Administration buildings and libraries | ☐ Animal Control Building |
| ☐ Airports | ☐ Cemeteries |
| ☐ Chemical storage facilities | ☒ Fire Stations |
| ☒ Fuel Farms | ☒ Parks |
| ☒ Police Stations | ☒ Public golf courses |
| ☒ Public parking lots | ☐ Public schools |
| ☐ Recycling facilities | ☒ Vacant land and open space |
| ☒ Vehicle storage | |

Facilities that may have the high potential to discharge pollutants:

- | | |
|--|--|
| ☒ Bus Stations and Garages | ☐ Composting facilities |
| ☐ Hazardous waste handling/disposal/transfer facilities | ☒ Equipment storage and maintenance facilities |
| ☒ Fleet maintenance facilities | ☒ Materials storage and Public Works yards |
| ☒ Outdoor wash areas | ☒ Salt storage facilities |

☐ Other facilities – Provide a description below:

Check all applicant-owned or operated structural storm water controls with a discharge of storm water to surface waters of the state:

- | | |
|--|---|
| ☒ Catch basins | ☐ Constructed wetlands |
| ☒ Detention basins | ☐ Infiltration basins and trenches |
| ☐ Oil/water separators | ☐ Porous pavement |
| ☒ Pump Stations | ☐ Rain gardens |
| ☐ Secondary containment | ☒ Underground storage vaults or tanks |
| ☒ Vegetated swales | |

☐ Other structural storm water controls – Provide a description below:

61. Provide the location where an up-to-date map (or maps) is available with the location of the facilities and structural storm water controls identified in Question 60. *The location of the facilities and structural storm water controls may be included on the storm sewer system map maintained for the IDEP.*

The map (or maps) is available at the following location: DPW Administrative Building, 12973 Farmington Rd, Livonia, MI

62. Provide the procedure for updating and revising the inventory in Question 60 and map (or maps) identified in Question 61 as facilities and structural storm water controls are added, removed, or no longer owned or operated by the applicant. *A suggested timeframe for updating/revising the inventory and map(s) is 30 days following adding/removing a facility or structural storm water control.*

Procedure Reference (page and paragraph of attachments): Appendix H - P2GH General Procedures, Section C

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Facility-Specific Storm Water Management

63. Provide the procedure for assessing each facility identified in Question 60 for the potential to discharge pollutants to surface waters of the state. The procedure shall include a process for updating and revising the assessment. *A recommended timeframe for updating/revising the assessment is 30 days prior to discharging storm water from a new facility and within 30 days of determining a need to update/revise the facility assessment.*

The applicant should consider the following factors when assessing each facility:

- Amount of urban pollutants stored at the site (e.g., sediment, nutrients, metals, hydrocarbons, pesticides, fertilizers, herbicides, chlorides, trash, bacteria, or other site-specific pollutants)
- Identification of improperly stored materials
- The potential for polluting activities to be conducted outside (e.g., vehicle washing)
- Proximity to waterbodies
- Poor housekeeping practices
- Discharge of pollutants of concern to impaired waters

☒ Procedure Reference (page and paragraph of attachments): Appendix H - P2GH General Procedures, Section B

☐ Not Applicable – The applicant does not own a facility that discharges storm water to surface waters of the state in the urbanized area. Skip to Question 71.

64. Provide the list of prioritized facilities using the assessment in Question 63. Each facility shall be prioritized based on having the high, medium, or low potential to discharge pollutants to surface waters of the state. Facilities with the high potential for pollutant runoff shall include, but are not limited to, the applicant's fleet maintenance and storage yards. The applicant may submit a demonstration with a description of how the applicant's fleet maintenance and storage yard has the low potential to discharge pollutants to surface waters of the state.

☒ Prioritized Facility List (page and paragraph of attachments): Appendix H - P2GH General Procedures, Section D

☐ Fleet Maintenance and Storage Yard Demonstrations (page and paragraph of attachments): _____

65. Is a site-specific standard operating procedure (SOP) available identifying the structural and non-structural storm water controls implemented and maintained to prevent or reduce pollutant runoff at each facility with the high potential for pollutant runoff? The SOP shall be available at each facility with the high potential for pollutant runoff and upon request from the MDEQ. The SOP shall identify the person responsible for oversight of the facility. *The MDEQ may request the submission of the SOP during the application review process.*

☒ Yes, a site-specific SOP is available at each facility with the high potential for pollutant runoff

☐ Not Applicable – The applicant does not own or operate any facilities with the high potential for pollutant runoff. Skip to Question 70.

66. Provide the reference in the SOP, for each facility with the high potential for pollutant runoff, to the following: the list of significant materials stored on-site that could pollute storm water; the description of the handling and storage requirements for each significant material; and the potential to discharge the significant material.

SOP Reference (page and paragraph of attachments): _____

This space is available to reference multiple site-specific SOPs

Appendix H - P2GH DPW Facility; Appendix H - P2GH Glendale Storage Yard/Landfill

67. Provide the reference in the SOP, for each facility with the high potential for pollutant runoff, identifying the good housekeeping practices implemented at the site. *Good housekeeping practices include keeping the facility neat and orderly, properly storing and covering materials, and minimizing pollutant sources to prevent or reduce pollutant runoff.*

SOP Reference (page and paragraph of attachments): _____

This space is available to reference multiple site-specific SOPs

Appendix H - P2GH DPW Facility; Appendix H - P2GH Glendale Storage Yard/Landfill

68. Provide the reference in the SOP, for each facility with the high potential for pollutant runoff, to the description and schedule for conducting routine maintenance and inspections of storm water management and control devices to ensure materials and equipment are clean and orderly and to prevent or reduce pollutant runoff. *A biweekly schedule is recommended for routine inspections.*

SOP Reference (page and paragraph of attachments): _____

This space is available to reference multiple site-specific SOPs

Appendix H - P2GH DPW Facility; Appendix H - P2GH Glendale Storage Yard/Landfill

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69. Provide the reference in the SOP, for each facility with the high potential for pollutant runoff, to the description and schedule for conducting a comprehensive site inspection at least once every six months. The comprehensive inspection shall include an inspection of all structural storm water controls and a review of non-structural storm water controls to prevent or reduce pollutant runoff.

SOP Reference (page and paragraph of attachments): _____

This space is available to reference multiple site-specific SOPs

Appendix H - P2GH DPW Facility; Appendix H - P2GH Glendale Storage Yard/Landfill

70. Provide the procedure identifying the BMPs currently implemented or to be implemented during the permit cycle to prevent or reduce pollutant runoff at each facility with the **medium and lower potential for the discharge of pollutants** to surface waters of the state using the assessment and prioritized list in Questions 63 and 64.

Procedure Reference (page and paragraph of attachments): Appendix H - P2GH General Procedures, Section D

Structural Storm Water Control Operation and Maintenance Activities

71. Provide the procedure for prioritizing each catch basin for routine inspection, maintenance, and cleaning based on preventing or reducing pollutant runoff. The procedure shall include assigning a priority level for each catch basin and the associated inspection, maintenance and cleaning schedule based on preventing or reducing pollutant runoff. The procedure shall include a process for updating/revising the priority level for a catch basin giving consideration to inspection findings and citizen complaints. *A recommended timeframe for updating/revising the procedure is 30 days following the construction of a catch basin or a change in priority level.*

- ☒ Procedure Reference (page and paragraph of attachments): Appendix H - P2GH General Procedures, Section G
☐ Not Applicable – The applicant does not own or operate catch basins. Skip to Question 75.

72. Provide the geographic location of the catch basins in each priority level using either a narrative description or map.

Catch Basin Priority Location (page and paragraph of attachments): Appendix H - P2GH General Procedures, Section F

73. Provide the procedure for inspecting, cleaning, and maintaining catch basins to ensure proper performance. Proper cleaning methods include ensuring accumulated pollutants are not discharged during cleaning and are removed prior to discharging to surface waters of the state. *A compliance assistance document titled Catch Basin Cleaning Activities Guidance Document is available at http://www.michigan.gov/documents/deq/wb-stormwater-CatchBasinGuidance_216198_7.pdf.*

Procedure Reference (page and paragraph of attachments): Appendix H - P2GH General Procedures, Section G

74. Provide the procedure for dewatering, storage, and disposal of materials extracted from catch basins. *A compliance assistance document titled Catch Basin Cleaning Activities Guidance Document is available at http://www.michigan.gov/documents/deq/wb-stormwater-CatchBasinGuidance_216198_7.pdf.*

Procedure Reference (page and paragraph of attachments): Appendix H - P2GH General Procedures, Section H

75. Provide the procedure for inspecting and maintaining the structural storm water controls identified in Question 60, excluding the structural storm water controls included in an SOP as part of Question 65 and catch basins. The procedure shall include a description and schedule for inspecting and maintaining each structural storm water control and the process for disposing of maintenance waste materials. The procedure shall require that controls be maintained to reduce to the maximum extent practicable the contribution of pollutants to storm water. The procedure shall include a process for updating/revising the procedure to ensure a maintenance and inspection program for each structural storm water control. *A recommended timeframe for updating/revising the procedure is 30 days following the implementation of a new structural storm water control.*

- ☒ Procedure Reference (page and paragraph of attachments): Appendix H - P2GH DPW Facility
☐ Not Applicable – Applicant does not own or operate any structural storm water controls

76. Provide the procedure requiring new applicant-owned or operated facilities or new structural storm water controls for water **quantity** be designed and implemented in accordance with the post-construction storm water runoff control performance standards and long-term operation and maintenance requirements.

Procedure Reference (page and paragraph of attachments): Appendix H - P2GH General Procedures, Section K

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Municipal Operations and Maintenance Activities

77. Provide the procedure with the assessment of the applicant's operation and maintenance activities for the potential to discharge pollutants to surface waters of the state. The assessment shall identify all pollutants that could be discharged from each applicable operation and maintenance activity and the BMPs being implemented or to be implemented to prevent or reduce pollutant runoff. The procedure shall include a process for updating and revising the assessment. *A suggested timeframe for updating/revising the assessment is 30 days following adding/removing BMPs to address new and existing operation and maintenance activities.*

At a minimum, the procedure shall include assessing the following municipal operation and maintenance activities if applicable (check all that apply):

- ☒ Road, parking lot, and sidewalk maintenance (e.g., pothole, sidewalk, and curb and gutter repair)
- ☒ Bridge maintenance
- ☒ Right-of-way maintenance
- ☐ Unpaved road maintenance
- ☒ Cold weather operations (e.g., plowing, sanding, application of deicing agents, and snow pile disposal)
- ☒ Vehicle washing and maintenance of applicant-owned vehicles (e.g., police, fire, school bus, public works)

- ☒ Procedure Reference (page and paragraph of attachments): Appendix H - P2GH General Procedures; Appendix H - P2GH Glendale Storage Yard/Landfill
- ☐ Not Applicable – Provide an explanation below.

78. Provide the procedure for prioritizing applicant-owned or operated streets, parking lots, and other impervious infrastructure for street sweeping based on the potential to discharge pollutants to surface waters of the state. The procedure shall include assigning a priority level for each parking lot and street and the associated cleaning schedule (i.e., sweeping frequency and timing) based on preventing or reducing pollutant runoff. The procedure shall include a process for updating/revising the priority level giving consideration to street sweeping findings and citizen complaints. *A recommended timeframe for updating/revising the prioritization is 30 days following the construction of a new street, parking lot, or other applicant-owned or operated impervious surface or within 30 days of identifying a need to revise a priority level.*

- ☒ Procedure Reference (page and paragraph of attachments): Appendix H - P2GH General Procedures, Section I
- ☐ Not Applicable – The applicant does not own or operate any streets, parking lots, or other impervious infrastructure. Skip to Question 82.

79. Provide the geographic location of the streets, parking lots, and other impervious surfaces in each priority level using either a narrative description or map.

Street Sweeping Priority Location (page and paragraph of attachments): Appendix H - P2GH General Procedures, Section I

80. Provide the procedure identifying the sweeping methods based on the applicant's sweeping equipment and use of additional resources in sweeping seasonal leaves or pick-up of other materials. *Proper sweeping methods include operating sweeping equipment according to the manufacturers' operating instructions and to protect water quality.*

Procedure Reference (page and paragraph of attachments): Appendix H - P2GH General Procedures, Section I

81. Provide the procedure for dewatering, storage, and disposal of street sweeper waste material. *A compliance assistance document titled Catch Basin Cleaning Activities Guidance Document is available at http://www.michigan.gov/documents/deq/wb-stormwater-CatchBasinGuidance_216198_7.pdf.*

Procedure Reference (page and paragraph of attachments): Appendix H - P2GH General Procedures, Section H

Managing Vegetated Properties

82. Provide the procedure requiring the applicant's pesticide applicator to be certified by the State of Michigan as an applicator in the applicable category, to prevent or reduce pollutant runoff from vegetated land. A description of the categories is located at http://www.michigan.gov/mdard/0,4610,7-125-1569_16988_35289-11992--,00.html

- ☒ Procedure Reference (page and paragraph of attachments): Appendix H - P2GH General Procedures, Section L
- ☐ Not Applicable – Provide an explanation below (e.g., the applicant's pesticide applicator only uses ready-to-use products from the original container).

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Contractor Requirements and Oversight

83. Provide the procedure requiring contractors hired by the applicant to perform municipal operation and maintenance activities comply with all pollution prevention and good housekeeping BMPs as appropriate. The procedure shall include the process implemented for providing oversight of contractor activities to ensure compliance.

Procedure Reference (Page and Paragraph of Attachments): Appendix H - P2GH General Procedures, Section N

Employee Training

84. Provide the employee training program to train employees involved in implementing or overseeing the pollution prevention and good housekeeping program. The program shall include the training schedule. At a minimum, existing staff shall be trained once during the permit cycle and within the first year of hire for new staff.

Program Reference (Page and Paragraph of Attachments): Appendix H - P2GH General Procedures, Section M

Total Maximum Daily Load (TMDL) Implementation Plan

The following questions address discharges to impaired waters with a USEPA approved TMDL that includes a pollutant load allocation assigned to the permittee's MS4. BMPs shall be implemented to reduce the discharge of the TMDL pollutant from the MS4 to make progress in meeting Water Quality Standards. Applicable TMDLs are TMDLs approved prior to the applicant being notified of the need to apply for permit reissuance. Applicable TMDLs for the applicant were provided in the application notice letter.

The applicant shall describe the current and proposed BMPs to meet the minimum requirements for the TMDL Implementation Plan, which shall be incorporated into the SWMP. Please indicate in your response, if you are or will be working collaboratively with watershed or regional partners on any or all activities in the TMDL Implementation Plan during the permit cycle. The following questions represent the minimum requirements for a TMDL Implementation Plan. Please complete the following questions as appropriate. A measurable goal with a measure of assessment shall be included for each BMP, and, as appropriate, a schedule for implementation (months and years), including interim milestones and the frequency of the BMP. The responses shall reflect the nested MS4s identified in Section VI.

The USEPA has a document to assist with developing a TMDL Implementation Plan available at http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/upload/region3_factsheet_tmdl.pdf.

- ☒ Proposing to work collaboratively on any or all activities in the TMDL Implementation Plan during the permit cycle.

85. Was a TMDL included in the applicant's application notice?

☒ Yes, the following approved USEPA TMDL(s) was included in my application notice letter:

☐ No, Skip to Section VIII.

86. Provide the procedure for identifying and prioritizing BMPs currently being implemented or to be implemented during the permit cycle to make progress toward achieving the pollutant load reduction requirement in each TMDL identified in Question 85. The procedure shall include a process for reviewing, updating, and revising BMPs implemented or to be implemented to ensure progress in achieving the TMDL pollutant load reduction.

Procedure Reference (page and paragraph of attachments): *e.g., Attachment A, Page 3, Section b* See Appendix I

87. Provide the list of prioritized BMPs currently being implemented or to be implemented during the permit cycle to make progress toward achieving the pollutant load reduction requirement in each TMDL identified in Question 85. Each BMP shall include a reference to the targeted TMDL pollutant.

TMDL BMP Priority List (page and paragraph of attachments): See Appendix I

88. Provide the monitoring plan for assessing the effectiveness of the BMPs currently being implemented, or to be implemented, in making progress toward achieving the TMDL pollutant load reduction requirement, including a schedule for completing the monitoring. Monitoring shall be specifically for the pollutant identified in the TMDL. Monitoring may include, but is not limited to, outfall monitoring, in-stream monitoring, or modeling. At a minimum, monitoring shall be conducted two times during the permit cycle or at a frequency sufficient to determine if the BMPs are adequate in making progress toward achieving the TMDL pollutant load reduction. *Existing monitoring data may be submitted for review as part of the plan to meet part of the monitoring requirement.*

TMDL Monitoring Plan (page and paragraph of attachments): See Appendix I

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SECTION VIII. CERTIFICATION

Rule 323.2114(1-4), promulgated under the NREPA, requires that this Application be signed by either a principal executive officer or ranking elected official (e.g., mayor, village president, city or village manager, or clerk). Note: If the signatory is not a principal executive officer or ranking elected official, but is authorized to sign the Application, please provide documentation of the authorization.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision In accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for having knowledge of violations."

I understand that my signature constitutes a legal agreement to comply with the requirements of the NPDES Permit. I certify under penalty of law that I possess full authority on behalf of the legal owner/permittee to sign and submit this Application. I certify to the best of my knowledge that it is true, accurate and meets the minimum permit requirements for a SWMP to the MEP.

Print Name: **Doug Moore**

Title: **Superintendent of Public Service**

Representing: **City of Livonia**

Signature:

Date:

STORM WATER DISCHARGE PERMIT APPLICATION

Table 2: Public Education Program Best Management Practices (BMPs)

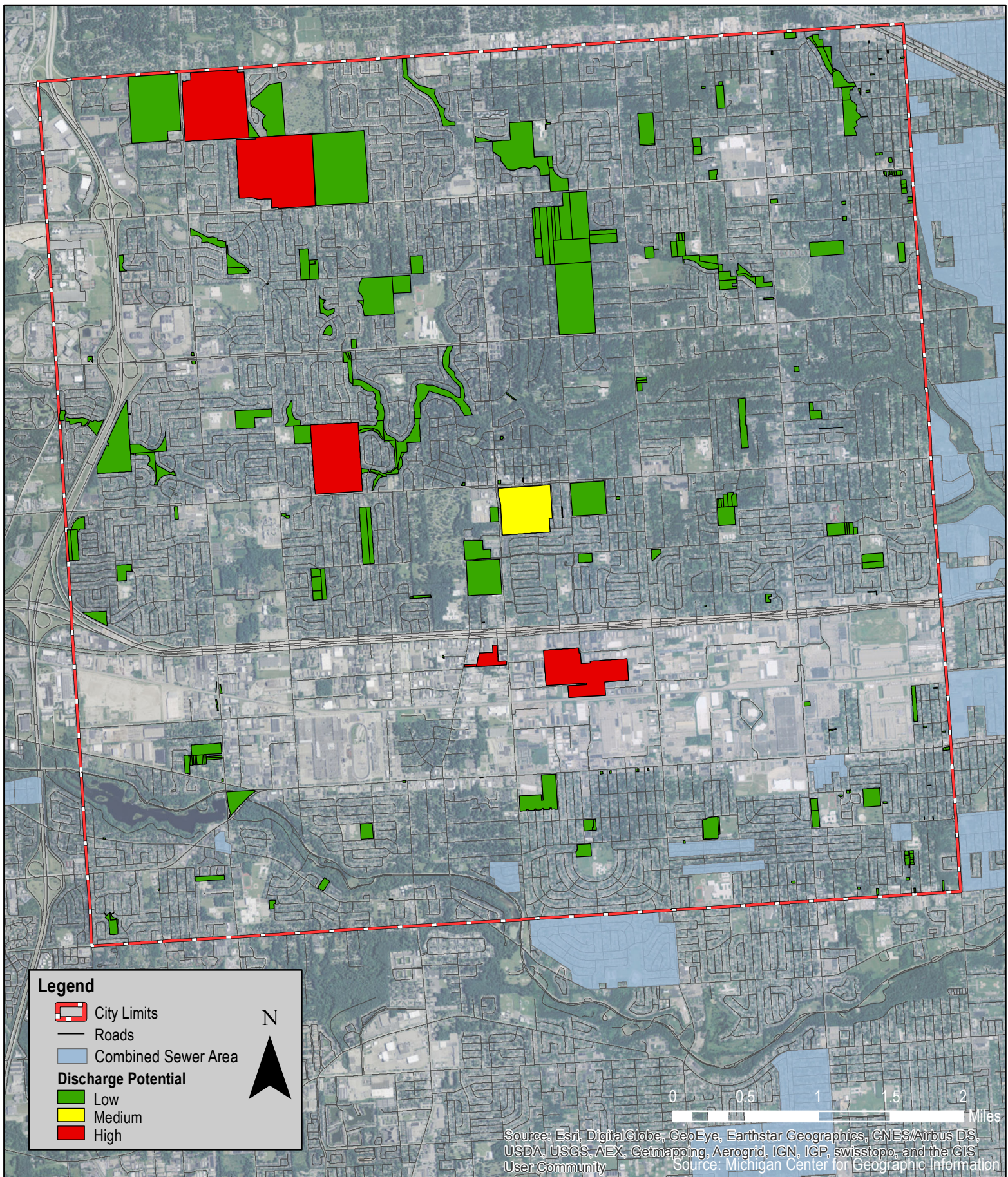
PEP Topic	BMP Identifier	BMP Descriptor	Partner Collaboration	Target Audience	Key Messages	Delivery Mechanism	Year	Frequency	Responsible Party	Measurable Goal
A B C D E F G H I	1	Distribute pollution prevention literature on various topics through brochures, educational materials and other media	ARC member communities, counties and cooperative partners	General public	Educating on public connection of MS4 to area waterbodies, public reporting illicit discharge, septic system care and failure, proper disposal of pesticides, herbicides and fertilizers, public responsibility and stewardship in the Rouge River watershed, proper disposal of grass, leaf and animal wastes, promote HHHW including trailer, motor vehicle and chemical waste, GI and LID, cleaning materials and proper car, pavement and power washing.	Brochures, educational materials and electronic media	Ongoing	Current and new items annually	ARC member communities listed in Appendix D, Attachment A	Amount of materials distributed, number of views through electronic media
A B C D E F G H I J	2	Coordinate existing and create new community articles and ad graphics on pollution prevention and watershed restoration and stewardship	ARC member communities, counties and cooperative partners	General public, businesses	Educating on connection of MS4 to area waterbodies, public reporting illicit discharge, septic system care and failure, proper disposal of pesticides, herbicides and fertilizers, public responsibility and stewardship in the Rouge River watershed, proper disposal of grass, leaf and animal wastes, promote HHHW including trailer, motor vehicle and chemical waste, GI and LID, cleaning materials and proper car, pavement and power washing and educate commercial, industrial and educational institutional entities about pollution prevention.	Articles and ad graphics	Ongoing	Current items annually; five new articles and/or ad graphics during the permit cycle	ARC member communities listed in Appendix D, Attachment A	List of articles/ad graphics distributed, number of views on websites/social media
A B C D	3	Provide static displays and posters on pollution	ARC member communities, counties and	General public	Educating on connection of MS4 to area waterbodies, public reporting illicit discharge, septic system care	Static displays and posters	Current displays – ongoing; new	Current displays annually; up to 4 new	ARC member communities listed in	Date and title of events static displays used at, number of posters distributed annually and

PEP Topic	BMP Identifier	BMP Descriptor	Partner Collaboration	Target Audience	Key Messages	Delivery Mechanism	Year	Frequency	Responsible Party	Measurable Goal
E F G H I		prevention and watershed restoration and stewardship	cooperative partners		and failure, proper disposal of pesticides, herbicides and fertilizers, public responsibility and stewardship in the Rouge River watershed, proper disposal of grass, leaf and animal wastes, promote HHHW including trailer, motor vehicle and chemical waste, GI and LID, cleaning materials and proper car, pavement and power washing.		posters in 2016 and new displays during the permit cycle	posters in 2016 and then annually; new static displays annually upon completion	Appendix D, Attachment A	where posters were displayed
A B C E G J	4	Promote environmental hotlines to educate the public on illicit discharges and promote public reporting of illicit discharges and improper disposal of materials into the MS4	ARC member communities, Wayne County, Oakland County, Washtenaw County, State of Michigan	General public, municipal employees and businesses	Educating on connection of MS4 to area waterbodies, public reporting illicit discharge, public responsibility and stewardship in the Rouge River watershed, proper disposal of pesticides, herbicides and fertilizers, promote HHHW including trailer, motor vehicle and chemical waste, educate commercial, industrial and educational institutional entities about pollution prevention.	Websites, social media, brochures, electronic media, at events and trainings	Ongoing	Annually	ARC member communities listed in Appendix D, Attachment A	Number of materials distributed and number of views on website/social media
A B C D E F G H I	5	Development of "homeowners" materials to promote the importance of pollution prevention and watershed restoration and stewardship	ARC member communities, counties and cooperative partners	General public	Educating on connection of MS4 to area waterbodies, public reporting illicit discharge, septic system care and failure, proper disposal of pesticides, herbicides and fertilizers, public responsibility and stewardship in the Rouge River watershed, proper disposal of grass, leaf and animal wastes, promote HHHW including trailer, motor vehicle and chemical waste, GI and LID, and cleaning materials and proper car, pavement and power washing	Brochure	During the permit cycle	Annually	ARC member communities listed in Appendix D, Attachment A	Number of materials distributed
A B C D E F G H I	6	Develop and promote educational workshops and presentations	ARC member communities, Friends of the Rouge and counties and cooperative partners	General public, businesses	Educating on connection of MS4 to area waterbodies, public reporting illicit discharge, septic system care and failure, proper disposal of pesticides, herbicides and fertilizers, public responsibility and stewardship in the Rouge River watershed, proper	Workshops and presentations	Ongoing	6 during the permit cycle	ARC member communities listed in Appendix D, Attachment A	Sign-in sheets and topics from workshops/presentations and number of materials distributed

PEP Topic	BMP Identifier	BMP Descriptor	Partner Collaboration	Target Audience	Key Messages	Delivery Mechanism	Year	Frequency	Responsible Party	Measurable Goal
J					disposal of grass, leaf and animal wastes, promote HHHW including trailer, motor vehicle and chemical waste, GI and LID, cleaning materials and proper car, pavement and power washing and educate commercial, industrial and educational institutional entities about pollution prevention.					
A B C D E F G H I J	7	Promote and support volunteer activities	ARC member communities, Wayne County, Oakland County, Washtenaw County, Friends of the Rouge, Cranbrook Institute of Science, University of Michigan - Dearborn	General public, businesses and schools	Promoting the importance of volunteer activities in the Rouge River Watershed such as River Day, Rouge Rescue, workdays, water festivals and green schools programs will encourage public responsibility and stewardship in the Rouge River.	Website/social media, materials distributed and presentations and workdays	Ongoing	Promotion of activities will be annually and up to 4 workdays may be hosted during the permit cycle	ARC members listed in Appendix D, Attachment A	Number of views on website/social media, number of volunteers attending various events and survey results from various events
A B C I J	8	Promotion and support volunteer monitoring activities within the Rouge River Watershed	ARC member communities, Wayne County, Oakland County, Washtenaw County, Friends of the Rouge	General public and businesses	Promote the importance of pollution prevention and watershed restoration and stewardship through volunteer monitoring. This monitoring may include general macroinvertebrates, stoneflies, and frogs and toads and/or fish. Volunteer monitoring will provide education, build stewardship and provided valuable data for the protection and restoration of the Rouge River.	Website/social media, materials distributed and presentations	Ongoing	Minimum of once during the permit cycle with 1 Winter Stonefly Search and 1 Spring Bug Hunt or other like programs, 1 Fall Bug Hunt and 2 other volunteer monitoring training exercises and/or workshops	ARC members listed in Appendix D, Attachment A	Number of public and businesses attending monitoring events and survey results from various events

PEP Topic	BMP Identifier	BMP Descriptor	Partner Collaboration	Target Audience	Key Messages	Delivery Mechanism	Year	Frequency	Responsible Party	Measurable Goal
A B F I	9	Rouge River Watershed signage	ARC member communities, Wayne County, Oakland County, and Washtenaw County	General public	River/Road Crossing signs, Don't Feed the Geese/Waterfowl signs, and Grow Zone signs and disposal practices of animal waste or other pollution prevention topic. This activity helps to educate and increase public awareness about the interconnectedness of the watershed and the storm sewer system.	Signs and sticker	Ongoing and one new sign and/or bumper sticker during the permit cycle	Annually	ARC members listed in Appendix D, Attachment A	Documentation of current signage, maintenance required, and future signage placement and the number of new signs/stickers distributed
A B C D E F G H I J	10	Continued participation in regional partnership activities	ARC member communities, Wayne County, Oakland County, Washtenaw County, SEMCOG, and various other organizations as opportunities arise	Organizations, businesses and governmental agencies	To build partnerships with organizations like the Alliance of Downriver Watersheds, SEMCOG, Great Lakes Commission and other regional partners to coordinate storm water permit related public education and other storm water related initiatives.	Participate and collaborate with regional partners	Ongoing	Annually	ARC members listed in Appendix D, Attachment A	Meeting dates, summaries of activities and partner annual reports

APPENDIX A
Outfall and Point of Discharge Information



City of Livonia Facilities Location Map

Wayne County, Michigan



APPENDIX B
Enforcement Response Procedure

1.12.010 - Code violations constitute misdemeanors or civil infractions—Offenses by minors—Penalty—Additional remedy.

- A. It is unlawful and constitutes a misdemeanor for any person to violate or fail to comply with any of the provisions of this Code, unless such violation or failure is by state statute declared to be a felony; provided further, however, that any violation of this Code declared by Act No. 510 of the Public Acts of 1978, as amended, to be a civil infraction, is declared to be a civil infraction in this Code. Except as set forth in 10.03.050 of this Code, every person convicted of a misdemeanor for a violation of or failure to comply with any provision of this Code or any regulation lawfully promulgated pursuant thereto shall, unless otherwise prescribed in this Code, be punished by a) a fine of not more than five hundred dollars (\$500.00), b) imprisonment for a period of time not to exceed ninety (90) days, or, where allowed by law, ninety-three (93) days, c) any other costs permitted by law, or d) any combination of the foregoing, in the discretion of the court.
- B. Any minor under the age of seventeen (17) years who violates any provision of this Code or any ordinance of the City shall be dealt with by the juvenile division of the probate court, except as otherwise prescribed by the laws of the state including, but not limited to, the civil infraction provisions of the Michigan Motor Vehicle Code.
- C. In addition to all other remedies, the City may commence and prosecute appropriate actions or proceedings in court to restrain or prevent any noncompliance with or violation of any of the provisions of this Code, or to correct, remedy or abate such noncompliance or violation. (Ord. 2885, § 1, 2012: Ord. No. 2611, § 1, 2003: Ord. 1709 § 1, 1983: prior code § 1-110)

1.12.020 - Continuing violations.

In addition to the penalties hereinabove provided, any condition caused or permitted to exist in violation of any of the provisions of this code or any ordinance shall be deemed a new and separate offense for each day that such condition continues to exist. (Prior code § 1-111)

15.36.020 - Enabling authority—Designation of municipal enforcing agency.

- A. It is the intent of the City to become the municipal enforcing agency in regard to implementing the provisions of Part 91, Soil Erosion and Sedimentation Control ("Part 91"), of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (the "Act"), MCL 324.9101 et seq.), adopting by reference the latest rules promulgated by the Michigan Department of Environmental Quality relative to Part 91 within the municipal corporate limits of the City. Wherever the provisions of this Chapter conflict with those of Part 91, the more restrictive standard shall govern.
- B. The Engineering Division of the Department of Public Works is designated as the Municipal Enforcing Agency responsible for administering and enforcing Part 91 and rules promulgated thereunder, as well as this ordinance, within the City. (Ord. 2679, § 1, 2004)

15.36.090 - Failure to complete work—Work performed by City when—Costs.

In the event of failure to complete the work or failure to comply with all the requirements, conditions and terms of permit, the City Engineer may order such work as is necessary to eliminate any danger to persons or property and to leave the site in a safe condition, and he may authorize completion of all necessary temporary or permanent soil erosion and sedimentation control measures. The permittee and the person issuing the instrument of credit or making the cash deposit shall continue to be firmly bound under a continuing obligation for the payment of all necessary costs and expenses that may be insured or expended by the City in causing any and all such work to be done. In the case of a cash deposit, any unused portion thereof shall be refunded to the permittee. (Ord. 2679, § 1, 2004)

15.36.180 - Enforcement.

- A. If the Engineering Division determines that soil erosion or sedimentation of adjacent properties or the waters of the State has or will reasonably occur from land in violation of this chapter, Part 91, or the rules promulgated under Part 91, the Engineering Division may seek to enforce such a violation by notifying the person who owns the land, by mail, with return receipt requested, of its determination. The notice shall contain a description of the violation and what must be done to remedy the violation and shall specify a time to comply with this chapter, Part 91, and the rules promulgated under Part 91.
- B. Within five (5) days after the issuance of such notice of violation, the person who owns the land subject to the notice shall implement and maintain soil erosion and sedimentation control measures in conformance with this chapter, Part 91, and the rules promulgated under Part 91.
- C. Not sooner than five (5) days after such notice has been mailed, if the condition of the land, in the opinion of the Engineering Division, may result in or contribute to soil erosion or sedimentation of adjacent properties or to the waters of the State, and if soil erosion and sedimentation control measures in conformance with this chapter, Part 91, and the rules promulgated under Part 91 are not in place, the Engineering Division or its designee may enter upon the land and construct, implement, and maintain soil erosion and sedimentation control measures in conformance with this chapter, Part 91, and the rules promulgated under Part 91. However, the enforcing agency shall not expend more than ten thousand dollars (\$10,000.00) for the cost of the work, materials, labor, and administration without prior written notice in the notice provided in subsection (A) above for the owner of the land that the expenditure of more than ten thousand dollars (\$10,000.00) may be made. If more than ten thousand dollars (\$10,000.00) is to be expended under this Section, then the work shall not begin until at least ten (10) days after the notice of violation has been mailed.
- D. Notwithstanding the existence or pursuit of any other remedy, the City may maintain an action in its own name in any court of competent jurisdiction for an injunction or other process against any person to restrain or prevent violations of this chapter.
- E. The City Engineer or his/her duly authorized agents, may enter at all reasonable times in or upon any private or public property for the purpose of inspecting and investigating conditions and practices which may be a violation of this chapter, Part 91, or the rules promulgated pursuant to Part 91. (Ord. 2679, § 1, 2004)

APPENDIX C

Collaborative Public Participation/Involvement Program (PPP)

Click [here](#) for link to Collaborative PPP Plan

APPENDIX D

Collaborative Public Education Program (PEP)

Click [here](#) for link to Collaborative PEP Plan

APPENDIX E

Collaborative Illicit Discharge Elimination Plan (IDEP)

Click [here](#) for link to Collaborative IDEP

APPENDIX F
Construction Stormwater Runoff Control

STANDARD OPERATING PROCEDURE CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

PREPARED FOR:

THE CITY OF LIVONIA
12973 FARMINGTON ROAD, LIVONIA, MICHIGAN 48150



APRIL 2016

SECTION A – PURPOSE

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a description of current and proposed BMPs to meet the minimum Soil Erosion and Sedimentation Control measure requirements for the construction stormwater runoff control program to the maximum extent practicable. The City of Livonia does administer a Part 91 program and is a designated Municipal Enforcement Agency. The following standard operating procedure provides a description of the procedures the City requires for construction site runoff control that includes notification procedures and ensuring proper permits are obtained by those disturbing greater than one acre of soil or are within 500 feet of a lake shore, stream bank, or wetland.

SECTION B – APPLICATION PROCEDURE

Prior to any earth disturbance, the City will ensure that construction activities of one acre or greater in total earth disturbance with the potential to discharge to the MS4 does obtain a Part 91 Permit and/or a State of Michigan Permit by Rule or is reviewed by an approved Authorized Public Agency through the site plan review process. These requirements are documented in both the City's Building Code and Grading and Soil Erosion Control Ordinances.

B.1 Chapter 15.36.040 – Plan Requirements

- a. *"A soil erosion and sedimentation control permit is required when an earth change is proposed which is within five hundred (500) feet of a lake or stream or will disturb one (1) or more acres of land."*
- b. *"Prior to issuance of the permit, an erosion and sedimentation control application and plan shall be submitted to the City Engineer in accordance with the rules promulgated under Part 91."*

B.2 Chapter 15.04.250 – Plot Plan

"There shall also be filed a plot plan drawn in accordance with an accurate boundary line survey showing to scale the size and location of all the new construction and all existing structures on the site and distances from lot lines. The plot plan shall also show the established street grades, proposed structures, existing structures, sidewalk and easement final grades and elevations at each lot corner and at all other grade change points. All grades are to be in accordance with any subdivision development plans that have been previously approved for the property. The Building Official shall be responsible for the review and approval of the plot plan as to grades before any building permit may be issued."

B.3 Chapter 15.04.260 – Building Grade Requirements

"Subsequent to the issuance of a building permit and prior to the commencement of construction, the permit holder or his authorized agent shall set survey stakes on the property which shall delineate the building grade in conformance with the approved plot plan"

SECTION C – INSPECTIONS/COMPLAINTS

As the Part 91 regulating authority, the City will inspect active construction sites that have obtained a Soil Erosion and Sedimentation Control Permit from the City.

C.1 Chapter 15.36.170 – Inspection Requirements

- a. *“The requirements of this chapter shall be enforced by the City Engineer. The City Engineer shall inspect the work and may require adequate inspection of compaction of by a soil engineer or by a soil testing agency approved by the City Engineer.”*
- b. *“If the City Engineer finds any conditions not as stating in any application, grading permit or approved plan, he/she may refuse to approve further work until approval of a revised grading plan which will conform to the existing conditions.”*

Complaints regarding soil erosion and sedimentation control issues made by the public will be forward to the City Engineer’s office. At that time, the City Engineer will direct a site inspection to document any violations of the soil erosion and sedimentation control/grading permit within 2 to 48 hours and pursue enforcement actions as appropriate. See the Enforcement Response Procedure for a summary of the enforcement protocols to ensure compliance with the City’s Part 91 program.

SECTION D – MEASUREABLE GOALS

To demonstrate the effectiveness of the City’s Part 91 program, the following metrics will be tracked for reporting purposes:

- Number of Part 91 related complaints received.
- Number of Part 91 permits issued by the City.
- Number of enforcement actions taken to achieve compliance with the City’s Part 91 program.

These metrics will be tracked over the reporting cycle that is specified in the City’s Certificate of Coverage for the MS4 Permit.

SECTION E – REPORTABLE DISCHARGES

The City will not report instances of *de minimis* soil discharges to MDEQ. For instances where the discharge of sediment cannot be immediately contained on site, or if there are other pollutants that include pesticides, petroleum derivatives, construction chemicals, and solid waste associated with the discharge in quantities that are consistent with the spill response plan as defined in the collaborative IDEP, the City will notify the MDEQ within 24 hours through the Pollution Emergency Alert System (PEAS) at 1-800-292-4706.

SECTION F –STATE OF MICHIGAN PERMIT BY RULE

The City shall advise the landowner or recorded easement holder of the State of Michigan Permit by Rule (Rule 323.2190) for storm water discharge from construction activity if the area of the disturbance is greater than 5 acres. These criteria will be identified during the site plan review process and will be included in correspondence with the landowner as appropriate.

SECTION G – PROCESS FOR REVISION

Any questions on this policy and procedure should be directed to the Stormwater Manager or the City Manager. This procedure shall be reviewed once per permit cycle by the Stormwater Manager for any updates to streamline the requirements.

APPENDIX G
Post-Construction Stormwater Runoff Program

STANDARD OPERATING PROCEDURE POST CONSTRUCTION STORMWATER RUNOFF CONTROL

PREPARED FOR:

THE CITY OF LIVONIA
12973 FARMINGTON ROAD, LIVONIA, MICHIGAN 48150



APRIL 2016

SECTION A – PURPOSE

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a description of current and proposed BMPs to meet the minimum control measure requirements for the post-construction stormwater runoff control program to the maximum extent practicable. Post-construction stormwater runoff controls are necessary to maintain or restore stable hydrology in receiving waters by limiting surface runoff rates and volumes and reducing pollutant loadings from site that undergo development or significant redevelopment.

SECTION B – ADOPTION OF COUNTY STANDARDS

The City of Livonia has adopted the Wayne County Stormwater Management Standards. Should any revisions to these standards be implemented by the County, the City will subsequently review and implement the revised standards as appropriate.

SECTION C – MEASURABLE GOALS

To demonstrate the effectiveness of the post construction stormwater runoff control program, the following metrics will be tracked for reporting purposes:

- Number of stormwater site plan reviews requested and completed
- Number of maintenance violations of constructed BMPs
- Number of instances where the City had to undertake corrective measures

These metrics will be tracked over the reporting cycle that is specified in the City's Certificate of Coverage.

SECTION D – PROCESS FOR REVISION

This procedure shall be reviewed every two years by the Stormwater Manager for any updates to streamline the requirements.

APPENDIX H
Pollution Prevention and Good Housekeeping

STANDARD OPERATING PROCEDURE POLLUTION PREVENTION AND GOOD HOUSEKEEPING

GENERAL PROCEDURES

PREPARED FOR:

THE CITY OF LIVONIA
12973 FARMINGTON ROAD, LIVONIA, MICHIGAN 48150



APRIL 2016

SECTION A – PURPOSE

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a description of current and proposed Best Management Practices (BMPs) to meet the minimum control measure requirements for the Pollution Prevention and Good Housekeeping Program to the maximum extent practicable to prevent or reduce the discharge of pollutants from municipal facilities and operations.

SECTION B – FACILITY ASSESSMENT AND PRIORITIZATION

City owned and operated facilities have been assessed for their potential to discharge pollutants to the waters of the state. Each facility was evaluated based on the following criteria:

1. Amount of urban pollutants stored at the site (i.e. sediment, nutrients, metals, hydrocarbons, pesticides, fertilizers, herbicides, chlorides, trash, bacteria, or other site-specific pollutants)
2. Identification of improperly stored materials
3. Potential for polluting activities to be conducted outside (i.e. vehicle washing)
4. Proximity to water bodies
5. Poor housekeeping practices
6. Discharge of pollutants of concern to impaired waters

Based on these criteria, the potential for each facility to discharge pollutants to the waters of the state were rated high, medium, or low. For “low” facilities where no assessment factors are present, catch basin cleaning and street sweeping will be performed as indicated in the applicable procedures for these activities. For “medium facilities”, appropriate BMPs are considered based on the assessment factors present to prevent or minimize the potential for pollutants from entering surface waters of the state. “High” priority facilities have specific procedures that are included in this document.

SECTION C– UPDATES AND PRIORITY REVISION

This inventory shall be updated within 30 days as facilities and structural stormwater controls are added, removed, or no longer owned or operated by the applicant. Priority level assessments shall be revised within 30 days prior to discharging stormwater at a new facility, or when the storage of materials, equipment, or vehicles changes at a facility.

SECTION D – MUNICIPAL INVENTORY AND ASSESSMENT

The following table identifies the City’s owned or operated facilities with a discharge of stormwater to surface waters of the state. **Table 1** includes a list of properties owned or operated by the City that has stormwater controls on site and provides the estimated number of stormwater structural controls (i.e. catch basins, detention basins, etc.) at each site, along with the priority level of potential discharge of pollutants to waters of the state.

Table 1

Facility Name	Structural Controls	Priority Level	Assessment Factors	BMP's Implemented
DPW Facility	Catch Basins (9) Storm Manholes (4) Dumpster (5) HHW Storage (1) Propane Tank (1) Underground Storage Tank (1) Vehicle Wash Area (1)	High	1, 3	See Section E
Glendale Landfill and Recycling Center	Catch Basins (4) Storm Manholes (1) Brine Tanks (2) Stockpiles (5) Salt Dome (2) Open Storage Structure (1)	High	1, 3	See Section E
Civic Center	Catch Basins (32) Storm Manholes (35) Underground Storage Tank (1)	Medium	1	Catch basin cleaning Street sweeping
Community Recreation Center	Catch Basins (4) Storm Manholes (20)	Low	1	Catch basin cleaning Street Sweeping
Devonaire Ice Arena	Catch Basins (1) Storm Manholes (1)	Low	1	Catch basin cleaning Street sweeping
Edgar Ice Arena/Ford Field	Catch Basins (14) Storm Manholes (3)	Low	1	Catch basin cleaning Street sweeping
Rotary Park	Dumpster (1) Grow Zones (2)	Low	1	Street sweeping Grow zone maintenance
Bicentennial Park	Catch Basins (3) Storm Manholes (8) Bioswale (1)	Low	1	Catch basin cleaning Street sweeping Bioswale maintenance
Jaycee Park	Storm Manholes (4) Detention Basins (2)	Low	1,4	Street sweeping Ditch Maintenance Detention basin inspection
Shelden Park	Dry Detention Areas (4) Catch Basins (15) Storm Manholes (17)	Low	1	Catch basin cleaning Street sweeping Detention basin inspection
Botsford Park	Catch Basins (3) Storm Manholes (2)	Low	1,4	Catch basin cleaning Street sweeping
Robert E. McCann Park	Catch Basins (2) Storm Manholes (1)	Low	1	Catch basin cleaning Street sweeping
Fire Station #5	None	Low	1	None
Fire Station #6	Catch Basins (2) Storm Manholes (2)	Low	1	Catch basin cleaning Street sweeping
Newburgh Village Retirement Community	Storm Manholes (22)	Low	1	Street sweeping
Silver Village Retirement Community	Catch Basins (15) Storm Manholes (3)	Low	1	Catch basin cleaning Street sweeping

Table 1 (cont'd)

Facility Name	Structural Controls	Priority Level	Assessment Factors	BMP's Implemented
Whispering Willows Golf Course	Catch Basins (5) Storm Manholes (6) Stockpiles (2) Dumpsters (3) Propane Tank (1) Underground Storage Tanks (2) Vehicle Wash Areas (2) Material Storage Shed (1)	High	1, 4	See Section E
Fox Creek Golf Course	Catch Basins (3) Storm Manholes (4) Stockpiles (3) Dumpsters (2) Above Ground Storage Tanks (2) Vehicle Wash Area (1) Material Storage Shed (1) Ditch (1)	High	1, 4	See Section E
Idyl Wyld Golf Course	Catch Basins (3) Storm Manholes (1) Stockpiles (2) Dumpsters (2) Propane Tank (1) Above Ground Storage Tanks (2) Vehicle Wash Areas (2)	High	1,4	See Section E

SECTION E –SITE SPECIFIC SOP FOR HIGH PRIORITY SITES

The MDEQ NPDES Phase II Stormwater Discharge Permit Application requires a standard operating procedure (SOP) for identifying the structural and non-structural stormwater controls implemented and maintained to prevent or reduce pollutant runoff at each facility with the high potential for pollutant runoff.

E.1 Inventory and Description of Materials and Activities

The majority of the City's Department of Public Works (DPW) operations are conducted at their 12973 Farmington Road and Glendale Storage Yard facilities. An additional fueling area is located at City Civic Center at 33000 Civic Center Drive. The City also operates three (3) golf courses, which all have fueling areas and grounds maintenance operations. All six (6) sites are considered a high priority sites due the following operations:

DPW Facility – 12973 Farmington Road

- Fuel Storage and Fueling
- Maintenance and cleaning of vehicles and equipment

Glendale Storage Yard/Landfill

- Salt Storage

- Stockpiled materials
- Significant dust or particulate generating processes

Fox Creek, Idyl Wyld, and Whispering Willows Golf Courses

- Fuel Storage and Fueling
- Maintenance and cleaning of vehicles and equipment
- Stockpiled materials
- Storage of pesticides, herbicides, and fertilizers

Site specific standard operating procedures have been developed for these facilities and are included as separate documents. Please see the Standard Operating Procedures – DPW Facility, Standard Operating Procedures – Glendale Storage Yard/Landfill, and Standard Operating Procedures – City Golf Courses.

SECTION F –CATCH BASIN MAINTENANCE PRIORITY

Catch basins that are inspected and maintained by the City have been prioritized for routine inspection, maintenance, and cleaning. The criteria for the priority levels that include low, medium, and high are defined as follows:

Low Priority – Catch basins that are of low priority have very little sediment accumulation and do not require routine maintenance. Low priority catch basins are inspected on an as needed basis based on complaints or by DPW staff during normal work activities.

Medium Priority – Catch basins that are of medium priority have a higher rate of sediment accumulation and will require maintenance more frequently than low priority catch basins.

High Priority – Catch basins that are of high priority have a high rate of sediment accumulation and will require regular routine maintenance and inspection. These catch basins are typically located in areas where sediment is easily mobilized and transported by runoff.

All of the City's catch basins have very little sediment accumulation rates, require little maintenance and are of low priority. Catch basins that prompt resident complaints or are subject to isolated instances where structures are plugged or damaged will be maintained and inspected by DPW as needed. At that time, it will be determined if the catch basin will require maintenance on a more frequent interval and warrants a reclassification to a medium priority rating. In the event the priority rating of a catch basin is changed, or new catch basins are constructed, this procedure will be updated and revised to reflect the change in priority within 30 days.

SECTION G – CATCH BASIN INSPECTION, MAINTENANCE, AND CLEANING

Catch basins are visually inspected during normal work activities or if a complaint is registered by a resident. A visual inspection of the structure will document any structural defects which may include collapse, cracking, frame damage, pipe collapse, blockage, etc. and will be documented using a standardized form. Catch basin structures in need of structural repairs are identified during the inspection and regular maintenance process based on the results of visual assessments conducted by the City. Structure repairs are prioritized based on public safety concerns. City owned catch basins are inspected concurrently with cleaning activities on a two and a half year cycle between April and November. DPW field staff utilized a Vactor truck to remove all solids and liquids from the structure to the extent possible. At no time is collected sediment and water allowed to be discharged back into the storm sewer system during the cleaning process. Catch basins that are located on private property are not inspected, cleaned, or maintained by the City.

SECTION H – DISPOSAL OF COLLECTED MATERIAL

Collected material from catch basin maintenance and street sweeping activities is transported to the Glendale Storage Yard and Landfill Facility where it is used as daily cover for landfill operations.

SECTION I –STREET SWEEPING PRIORITIZATION

City owned and maintained streets have been prioritized for street sweeping. The criteria for the priority levels that include low, medium, and high are defined as follows:

Low Priority – Residential streets within the City are of low priority due to their minimal sediment accumulation rates. They are generally swept at least three times per year.

Medium Priority – Major roads throughout the City are of medium priority due to the higher rate of sediment accumulation rates in comparison to low priority residential streets. Medium priority areas are generally swept seven to eight times per year.

High Priority – Areas that are of high priority have a high rate of sediment accumulation and will require regular, frequent sweeping. These areas are typically located in areas where sediment is easily mobilized and transported by runoff. Additionally, areas that prompt resident complaint or are subject to excessive road sediments are also considered a high priority area. There are currently no areas that have been assigned a high priority rating due to excessive road sediments and resident complaints. However, if DPW receives a complaint, a determination of the area will be made by DPW staff to increase sweeping on a more frequent interval as well as a reclassify the area to high priority rating.

In the event a priority rating is changed, or new City owned streets are constructed, this procedure will be updated and revised to reflect the change in priority within 30 days.

Street sweeping activities are conducted by the City of Livonia and/or contracted services using both mechanical and regenerative air equipment according to the manufacturer's operating instructions. Collected sediment from street sweeping activities is disposed of as described in Section H. The City also has a formal leaf collection program that generally occurs from the third week of October through the first week of December. Following bulk leaf pickup, the City conducts street sweeping for the entire City to remove all remaining leaf residue. Street sweeping program activities are not implemented under the following conditions:

- Street sweeping is not conducted on County or State roads
- Sweeping activities are not conducted during wet and inclement weather
- Sweeping activities are not conducted on private streets or private parking lots

SECTION J – OTHER STRUCTURAL STORMWATER CONTROLS

In addition to implementing the catch basin maintenance and street sweeping programs, the City also performs inspections of open and enclosed drains that are located throughout the City.

J.1 Open and Enclosed Drain Inspections

The procedure for open drains consists of the inspection of the inlet grates for blockages as-needed, or when complaints received by the City warrant an inspection. In most cases, follow up maintenance activities involve the removal of logjams or other debris that has accumulated on the inlet grate. For enclosed drains, inspections are conducted on an as-needed basis, or by request.

J.2 Pump Stations

The City currently maintains one (1) stormwater pump station, which is located at the intersection of Newburgh Road and I-96 and is owned by Wayne County. Routine inspection of the pump station is conducted on a monthly basis. Any maintenance that is needed conducted on an as-needed basis and documented using the City's computer system.

The City does not have any other structural controls that are owned or maintained by the City. In the event additional structural stormwater controls are constructed, this procedure will be updated and revised to include the new controls within 30 days.

SECTION K – NEW APPLICANT OWNED FACILITIES

In the event the City acquires or constructs new structural stormwater controls, the design of these structures will comply with the stormwater standards that have been established by Wayne County. Site plans will be reviewed by the City, Wayne County, or its consultants, to ensure the appropriate standards are met.

SECTION L – CERTIFIED PESTICIDE APPLICATOR

The DPW does have certified pesticide applicators (6) on staff but does not apply or store fertilizers. In the event the application of pesticides is needed, the City will retain the services of a licensed applicator.

SECTION M – EMPLOYEE TRAINING

Employee training programs will be implemented to inform appropriate personnel at all levels of responsibility of safety, environmental impacts, and good housekeeping practices. The City participates in training opportunities that are made available by SEMCOG, Wayne County, the Alliance of Rouge Communities, and others as deemed appropriate. Employee training components for the City of Livonia DPW and golf course maintenance staff includes:

Employees Trained	Training Description and Frequency
New Livonia DPW Employees	Upon hire, employees will: • View the Municipal Storm Water Pollution Prevention Storm Watch training video. • Read and become familiar with the City's SOPs. • Perform at least one Routine Inspection and one Comprehensive Inspection with a current City employee. • Participate in a job shadow program where new staff is paired with an experienced staff member for 30 days.
All Livonia DPW Employees	• View the Municipal Stormwater Pollution Prevention Storm Watch training video. • Review proper materials storage and handling. • Review good housekeeping and pollution prevention practices. • Review examples of illicit discharges to the storm sewer system • Review City's Spill Response Procedures
Key staff	• Attendance of key staff to relevant training workshops by the Alliance of Rouge Communities, SEMCOG, or others, when available.

SECTION N – CONTRACT REQUIREMENTS AND OVERSIGHT

The contractors hired by the City to perform municipal operations that potentially impact stormwater are required to follow appropriate pollution prevention BMPs indicated in the City's contract language. In cases where an outside contractor is hired to perform services that could impact stormwater, the contracting company will be required to follow appropriate pollution prevention BMPs. All work performed by outside contractors are monitored by City staff through daily observation to ensure quality of work, adherence to the specified contract language, and to ensure that potential impacts to stormwater are minimized.

Measureable Goals – To demonstrate the effectiveness of this procedure, the following metrics will be tracked for reporting purposes.

- Number of stormwater pollution related incidents pertaining to activities or work performed by the contractor.

- Number of incidents where the City required corrective action by the contractor.

These metrics will be tracked over the reporting cycle that is specified in the City's Certificate of Coverage.

SECTION O – COMPLAINT PROCEDURE

Complaints received by the public are logged into the City's computer system and then routed to the appropriate department for follow up. Investigation into complaints routed to the DPW is conducted after the complaint has been reviewed by the City. At that time, the DPW will make a determination to correct any problems, or contact the responsible parties for appropriate action.

Measureable Goals – To demonstrate the effectiveness of this procedure, the following metrics will be tracked for reporting purposes.

- Number of complaints routed to the DPW for follow up.
- Number of incidents that prompted additional corrective actions by the DPW or other responsible party.

These metrics will be tracked over the reporting cycle that is specified in the City's Certificate of Coverage.

SECTION P – PROCESS FOR REVISION

This procedure shall be reviewed once per permit cycle by the Stormwater Manager for any updates to streamline the requirements.

APPENDIX I
Total Maximum Daily Loads (TMDL)
Click [here](#) for link to Collaborative TMDL

Prohibited and Restricted Weeds

Michigan laws regulate the possession and sale of certain plant species which are considered undesirable from agricultural as well as environmental viewpoints. These unwanted species are listed below according to the applicable laws and regulations.

A. Prohibited Plant Species (Natural Resources and Environmental Protection Act Part 413 (Act 451 of 1994, as amended))

Any of the following plants, fragments, seeds or a hybrid or genetically engineered variant thereof, including plants labeled under an older scientific name (synonym):

Scientific Name	Common Name
<i>Cabomba caroliniana</i>	fanwort
<i>Cylindrospermopsis raciborskii</i>	cylindro
<i>Egeria densa</i> (synonyms: <i>Elodea densa</i> , <i>Anacharis densa</i> and <i>Philotria densa</i>) ..	Brazilian elodea
<i>Fallopia japonica</i> (synonyms: <i>Reynoutria japonica</i> and <i>Polygonum cuspidatum</i>) including hybrids with <i>Fallopia sachalinensis</i> known as <i>Fallopia</i> × <i>bohemica</i>	Japanese knotweed
<i>Heracleum mantegazzianum</i>	giant hogweed
<i>Hydrilla verticillata</i>	hydrilla
<i>Hydrocharis morsus-ranae</i>	European frogbit
<i>Lagarosiphon major</i>	African oxygen weed
<i>Myriophyllum aquaticum</i> (synonyms: <i>Myriophyllum brasiliensis</i> , <i>Myriophyllum brasiliense</i> , <i>Myriophyllum proserpinacoides</i> and <i>Enydria aquatica</i>)	parrot's feather
<i>Nitellopsis obtusa</i>	starry stonewort
<i>Nymphoides peltata</i>	yellow floating heart
<i>Salvinia molesta</i> , <i>auriculata</i> , <i>biloba</i> , or <i>herzogii</i>	giant salvinia
<i>Stratiotes aloides</i>	water soldier
<i>Trapa natans</i>	water chestnut

B. Restricted Plant Species (Natural Resources and Environmental Protection Act Part 413 (Act 451 of 1994, as amended))

Any of the following plants, fragments, seeds or a hybrid or genetically engineered variant thereof, including plants labeled under an older scientific name (synonym):

Scientific Name	Common Name
<i>Butomus umbellatus</i>	flowering rush
<i>Elaeagnus umbellata</i>	autumn olive
<i>Lythrum salicaria</i>	purple loosestrife
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil
<i>Phragmites australis</i>	Phragmites or common reed
<i>Potamogeton crispus</i>	curly leaf pondweed

C. Noxious Weeds (Michigan Seed Law (Act 329 of 1965) and Regulation 715 (Under Act 329) Seed Law Implementation)

1. Prohibited noxious weeds

Seeds of these species are prohibited as contaminants in seed offered for sale, including any sold under an older scientific name (synonym):

Scientific Name	Common Name
<i>Agropyron repens</i> (synonym <i>Elytrigia repens</i>)	quackgrass
<i>Cardaria draba</i>	whitetop = hoary cress = perennial peppergrass
<i>Carduus acanthoides</i>	plumeless thistle
<i>Carduus nutans</i>	musk thistle
<i>Centaurea maculosa</i>	spotted knapweed
<i>Centaurea picris</i>	Russian knapweed
<i>Cirsium arvense</i>	Canada thistle
<i>Cirsium vulgare</i>	bull thistle
<i>Convolvulus arvensis</i>	field bindweed
<i>Convolvulus sepium</i>	hedge bindweed
<i>Cuscuta spp.</i>	dodder
<i>Cyperus esculentus</i> , both seed and tubers.....	yellow nutsedge, chufa
<i>Euphorbia esula</i>	leafy spurge
<i>Ipomea species</i>	morning glory
<i>Nasella trichoma</i>	serrated tussock
<i>Solanum carolinense</i>	horsenettle
<i>Sonchus arvensis</i>	perennial sowthistle
<i>Sorghum halapense</i> , including <i>Sorghum alnum</i> and seed which cannot be distinguished from johnsongrass.....	johnsongrass
<i>Tribulus terrestris</i>	puncturevine

2. Restricted noxious weed seeds

Generally, agricultural seed offered for sale may not contain more than one seed of the following weed species per 2000 of agricultural seed offered for sale, including any weed seed identified under an older scientific name (synonym):

<i>Abutilon theophrasti</i>	velvetleaf
<i>Allium canadense</i>	wild onion
<i>Allium vineale</i>	wild garlic
<i>Avena fatua</i>	wild oat
<i>Barbarea vulgaris</i>	yellow rocket
<i>Berteroa incana</i>	hoary alyssum
<i>Brassica juncea</i>	Indian mustard
<i>Brassica nigra</i>	black mustard
<i>Datura stramonium</i>	jimsonweed
<i>Daucus carota</i>	wild carrot

Plantago lanceolatabuckhorn plantain
Raphanus raphanistrum.....wild radish
Rumex crispuscurled dock
Seteria faberii.....giant foxtail
Sinapis arvensischarlock
Solanum species: including all of the following species and any other species with
indistinguishable seed: nightshade complex
Solanum dulcamarabitter nightshade
Solanum eleagnifolium..... silver leaf nightshade
Solanum nigrumblack nightshade
Solanum ptycanthum eastern black nightshade
Solanum sarrachoides..... hairy nightshade
~~*Thlaspi arvense*~~ **Deregulated as of December 2015** pennycress = fanweed
Xanthium strumariumcocklebur

Green stormwater infrastructure: Building sustainable and resilient communities

Ruth Kline-Robach<kliner@msu.edu> and Paige Filice<filicepa@msu.edu>, [Michigan State University Extension](#) - July 28, 2023

Green stormwater infrastructure practices can protect waterways by reducing pollutants.



Filled with native grasses and flowering perennials, rain gardens are a cost effective and attractive way to reduce runoff

into waterways. Photo credit: Dr. Lois Wolfson

What happens when it rains? How we handle rainfall and where the water goes influences the quality of our lakes and rivers and impacts our everyday lives. Roadways and buildings have replaced areas that were once forested. Because of this urbanization, rainfall does not filter through the soil but instead runs off oily parking lots, fertilized lawns, salty roads, and other hardened landscapes and makes its way to our waterways unfiltered. Today we address a topic you might not have previously considered: stormwater runoff and management. Stormwater runoff is considered one of the greatest threats to clean water in the United States.

Stormwater runoff occurs when rainwater or melted snow flows over the ground, picking up pollutants and debris along the way. Historically, stormwater was handled through combined sewer systems, where both stormwater runoff and sanitary sewage flowed together in a single network of pipes to the nearest treatment facility. This approach worked well under normal precipitation events, but during heavy rainfall, the combined system would become overwhelmed, leading to untreated sewage overflowing to our lakes and rivers. Today, many (but not all) urbanized areas have separated stormwater from sanitary sewage lines. This

means that our sanitary waste travels to a treatment facility, while unfiltered stormwater leads directly to our rivers and lakes via storm drains. This untreated stormwater can have several negative impacts.

As urban areas expand and more land is developed, the natural landscape is altered. Increased impervious surfaces such as roadways, parking lots, and buildings lead to an increased volume and velocity of runoff. They can also cause higher water temperatures because sealed surfaces absorb sunlight and heat up faster than natural areas. In addition, stormwater runoff often contains pollutants such as oil, debris, road salt or fertilizers.

To address the problems created by untreated stormwater runoff, communities across the country are recognizing the need for Green Stormwater Infrastructure (GSI) practices. GSI refers to a range of techniques that manage stormwater runoff by mimicking nature's processes. Instead of using curbs and gutters to channel runoff directly to the nearest storm drain or water body, GSI practices aim to capture, treat, and store stormwater onsite, allowing it to settle and infiltrate the soil. Examples of GSI techniques include rain gardens, vegetated buffers, bioswales, constructed wetlands, permeable pavement, and green roofs. You have likely seen some of these practices near businesses and new development projects in your community. These techniques provide many benefits, including improved water quality, flood control and beautification of our landscapes.

Some communities also have local regulations in place that mandate the use of these techniques and promote responsible land development practices. An MS4 (Municipal Separate Storm Sewer System) community refers to a local government or municipality that has separated its sanitary and storm sewer systems. Many MS4 communities are regulated under the Clean Water Act, which requires them to manage stormwater runoff within their jurisdiction. Communities may install large-scale GSI projects on land owned by the municipality and require that stormwater design standards be followed for areas of redevelopment or new development of a certain size threshold (for example, on sites greater than one acre).

Property owners are also in a unique position to protect waterways from stormwater pollution. One simple way to capture and redirect water is with a rain barrel. Rain barrels are placed at the end of downspouts and collect water from rooftops and store it for later use. When placed on elevated platforms rain barrels make watering easy since gravity provides the water pressure. Another option to bring beauty and functionality to landscapes is with a rain garden. These are typically four to eight inches deep and can be designed in any shape or size. They are planted with a variety of deep-rooted native plants which help capture and filter water and are often placed near driveways or downspouts – places where runoff is common. Live near water? Installing a garden near waterways is one of the best ways to filter stormwater. Near shore gardens also add beauty and provide additional habitat for birds, fish, and other wildlife.

Get connected with the Michigan State University Extension Smart Gardening program to learn about other

nature-friendly landscaping techniques that help reduce pollutants and improve water quality.

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Examples of Native Landscape Ordinances from Minnesota Cities

Introduction

Many cities in Minnesota and elsewhere now allow or actively promote the use of native plants and natural or naturalized residential landscaping. Landscape types include meadow, prairie, rain gardens, lake and pond shorelines, and other natural areas. The ordinance excerpts included here show the range of approaches that cities are using. Some cities require a permit for native landscaping; others require setbacks but no permit; still others allow the practice by right.

Two important disclaimers:

1. These are summaries of or excerpts from local ordinances, not the complete ordinance. Most ordinances also include detailed prohibitions and procedures for removing weeds, brush, and other unmaintained or hazardous vegetation.
2. The ordinance excerpts were current as of December, 2019. Ordinances are likely to be amended or updated over time, so be sure to check the actual city code for the most current language.

General Guidance

The [Minnesota GreenStep Cities](#) program maintains a list of [Model Ordinances for Sustainable Development](#). The model ordinance for [Landscaping and Maintenance of Vegetation](#) distinguishes native plantings and other alternatives to turf grass and defines edible landscaping as a substitute for lawns. The ordinance requires a plan, setbacks, and maintenance of native landscaping to address the nuisance concerns that typically accompany alternatives to turf. (Last updated in 2008, some of the references are out-of-date but the ordinance language is useful.)

Austin

10.13 Grass and weeds on private property.

Subd. 1. It is unlawful for any owner, occupant or agent of any lot or parcel of land in the city to allow any noxious weeds as defined in Minnesota Statutes Sections 18.77 and 21.72 or grass growing upon any such lot or parcel of land to grow to a greater height than 8 inches.

A. The following areas and types of vegetation are exempted from this provision if managed in a manner so as not to become infested with weeds or to create a stagnant, foul-smelling condition;

1. Non-noxious weeds and grass vegetation in wetland areas;
2. Non-noxious weeds, grasses and herbaceous vegetation within 50' of designated storm water ponds or within 50' of natural or altered creeks, rivers and stream corridors, including riparian buffer strips, that convey water, provided they are cut to less than 10 inches at least once per year if located within 200' of an occupied residence or developed property;

3. Non-noxious weed and grass vegetation growing on land that has been agriculturally zoned land or has a history of being ag land, including pastures, that are fenced and contain animals, provided that a buffer zone of 10 feet between the ag land and any turf grass area will be required;
4. Temporary erosion control grasses;
5. **Maintained and weeded prairie, meadow or natural landscape vegetation** [emphasis added] that does not contain noxious weed growth and that includes the cultivation of native grasses indigenous to Minnesota provided that the property owner applies for and is issued a natural landscape permit and maintains the property in a condition sufficient to maintain the permit. Natural landscape permits are required if a proposed landscape includes native grasses that exceed or are expected to exceed 8 inches in overall height. Natural landscape permit applications shall be submitted to the Park Department. No natural landscape permits will be issued unless the following requirements are fulfilled by the owner;
 - a. They are set back not less than twenty feet from the front lot line. For the purposes of this ordinance, corner lots shall be deemed to have two front yards;
 - b. They are set back not less than five feet from the side and/or rear lot lines to provide a transition zone. No set back is required on the side or rear lot lines if (1) there is a fully opaque fence at least five feet in height installed between the native plants and the side or rear lot lines or (2) the native plants abut a neighboring Native Plant Landscape Area;
 - c. The Native Plant Landscape Area is cut at least once annually between April 15 and July 15 to a height no greater than ten (10) inches;
 - d. Turf grass is eliminated and the native plants, trees and shrubs are planted through transplanting or seed by human or mechanical means. Soil erosion should be controlled while the ground is bare of plant growth that is sufficient to inhibit erosion and is the sole responsibility of the owner or occupant;
 - e. Written authorization from the City Administrator or his/her designee is obtained for work within conservation or scenic easement areas, including planting, mowing or cutting.
6. A violation of any of the requirements set forth above will result in the revocation of the natural landscape permit by the City.
7. Grass and non-noxious weed vegetation in publicly owned parks designated as natural preserves or private property so designated by the City Council or natural undisturbed areas where the land and vegetation appears not to have been graded, landscaped or otherwise disturbed by human or mechanical means in recent time;
8. Grass and non-noxious weed vegetation on natural or altered slopes steeper than 2:1;
9. Ornamental grasses; and/ or
10. Natural wooded lots.

[\[link to code\]](#)

Bloomington

Chapter 10, Article VI, Weeds and Brush

§ 10.37 Definitions

BRUSH. Includes parts of plants, such as but not limited to, twigs, tree and shrub branches. **BRUSH** does not include firewood and construction material.

WEEDS. Includes all noxious weeds as defined by the statutes of the state and all such useless and troublesome plants as are commonly known as weeds to the general public including volunteer and scrub trees or shrubs.

§ 10.38 Nuisance

(a) Weeds and grass. All weeds or growing grass upon any lot, parcel of land or adjacent right-of-way area in the city to a height greater than eight inches, or which have gone or are about to go to seed, are hereby declared to be a nuisance and a detriment to the good order of the city with the following exceptions:

- (1) Native prairie and long grass areas shown on an approved landscape plan in accordance with § 19.52;
- (2) Native prairie and long grasses within a defined landscape area on a single- or two-family residential parcel, provided that such defined landscape area:
 - (A) Occupies no more than 50% of the pervious surface area of the parcel excluding natural wooded areas, wetlands, water bodies, rain gardens, lakescaping and scenic easements;
 - (B) Is set back from property lines by at least five feet. The setback is not required where the defined landscape area abuts another similar private or public landscape area, a wetland, pond, lake or stream or if a fully opaque fence at least four feet in height is installed along the lot line adjoining the planned landscape area; and
 - (C) Is maintained at least once per year through mowing or, if appropriate permits are obtained through the City Fire Marshal, burning.
- (3) Natural wooded areas;
- (4) Wetlands, ponds or rain gardens;
- (5) Lakescaping areas as defined in § 19.03; and
- (6) Areas where mowing is prohibited by easement or law.

[\[link to code\]](#)

Burnsville

Native Plantings Ordinance

The City has language specifically related to native plantings in its ordinances. Native prairie or other native habitat plantings are referred to as meadow vegetation in this document. Native plants used in a typical manicured garden are not regulated by this ordinance.

The following is a summary of the requirements of the native planting ordinance. Native plantings will be allowed as landscaping if they meet the following criteria:

- A landscape plan is submitted to the City and approved prior to the commencement of the project. More information on landscape plan requirements is listed below.
- The prior vegetation is eliminated and the native vegetation is planted through transplanting or seed by human or mechanical means.
- If weeds cover more than 25% of the planting, it must be cut to a height of no more than 8 inches at least once per year.
- The area is clearly defined by edging, fence, or similar material. A native planting that directly abuts at least a mower's width of mowed and maintained turf grass will be considered to have adequate edging.
- If on sloped ground, the native planting must have adequate erosion control measures installed while it establishes.
- The area does not extend into the public right of way.
- A sign is posted on the property in a location likely to be seen by the public, advising that a meadow or prairie is being established. This sign is required only if the planting is in an area likely to be seen by the public. This sign must be in addition to any sign permitted by the sign ordinance but must be no smaller than 10 inches square, no larger than one square foot, and no higher than 3 feet tall. The sign is no longer required when weeds cover 25% or less of the area.

Landscape Plans for Native Plantings

The City requires residents to submit a landscape plan for their native prairie planting prior to installation. Planting plans are reviewed and approved within 10-15 business days.

[Native Planting Landscape Plan\(PDF\)](#)

[\[Link to code\]](#) – see Section 7-1-9]

Minneapolis

One of the least restrictive ordinance examples is that of Minneapolis. Section 227.90 of the [Code of Ordinances](#) establishes a “right to install and maintain a managed natural landscape”, which is exempted from public nuisance regulations. Note that the ordinance applies to private parcels, not to boulevards, which do have height limits for vegetation.

*(a) In general.....*Except as part of a managed natural landscape as defined in this section, any weeds or grass growing upon any lot or parcel of land in the city to a greater height than eight (8) inches or which have gone or are about to go to seed are hereby declared to be a nuisance condition and dangerous to the health, safety and good order of the city.

(b) Right to install and maintain a managed natural landscape. An owner, authorized agent, or authorized occupant of any privately owned lands or premises may, consistent with this subsection and all other applicable laws, statutes, rules and ordinances, install and maintain a managed natural landscape.

(1) Definitions.

Managed natural landscape means a planned, intentional and maintained planting of native or non-native grasses, wildflowers, forbs, ferns, shrubs or trees, including but not limited to rain gardens, meadow vegetation, and ornamental plantings.

Meadow vegetation means grasses and flowering broad-leaf plants that are native to, or adapted to, the State of Minnesota, and that are commonly found in meadow and prairie plant communities, not including noxious weeds.

Noxious weed shall have the meaning assigned by Minnesota Statutes, Section 18.77, Subd. 8.

Ornamental plants means grasses, perennials, annuals and groundcovers purposefully planted for aesthetic reasons.

Rain garden means a native plant garden that is designed not only to aesthetically improve properties, but also to reduce the amount of stormwater and accompanying pollutants from entering streams, lakes and rivers.

Turf-grass lawn means a lawn comprised mostly of grasses common used in regularly cut lawns or play areas (such as but not limited to bluegrass, fescue, and ryegrass blends), intended to be maintained at a height of no more than eight (8) inches.

(2) Findings. The city council finds that the installation and maintenance of managed natural landscapes is beneficial to the city's environment and its residents and serves to further adopted city goals in that managed natural landscapes require fewer potentially harmful and costly inputs, improve stormwater retention, increase water quality and biodiversity, reduce greenhouse gas emissions, and provide habitat for wildlife such as birds, butterflies and other beneficial insects and species.

(3) Requirements.

- a. Managed natural landscapes may include plants and grasses in excess of eight (8) inches in height and which have gone to seed, but may not include any noxious weeds and must be maintained so as to not include unintended vegetation.

- b. Managed natural landscapes may not include any plantings, which due to location and manner of growth constitute a hazard to the public or may cause injury or damage to persons or property when such growth is in violation of sections [244.1580](#) or [427.280](#).
- c. Managed natural landscapes shall not include turf-grass lawns left unattended for the purpose of returning to a natural state.

[\[link to code\]](#)

Rochester

Rochester's ordinance includes specific requirements for a landscape permit and for a management and maintenance plan for the transition period to the natural landscape.

Intent: The City Council also determines that a variety of properly maintained landscapes in the City add diversity and a richness to the quality of life, and does not want to discourage the preservation, restoration and maintenance of diverse biologically stable natural plant communities or environmentally sound practices. The City Council finds that the establishment of native or naturalistic plant communities is an acceptable landscape treatment in the City. However, as a protection for the larger community, this change in vegetation must be properly planned, managed and maintained, and the length of transition period must be minimized or the property is likely to create a public nuisance.

Definitions:

Subd. 5. "Native and Naturalistic Vegetation" shall mean grasses and flowering broad-leaf plants that are native to, or adapted to, the State of Minnesota, and that are commonly found in meadow and prairie plant communities, except weeds.

Subd. 6. "Native grasses" shall mean grasses (Beach Grass, Wood Chess Grass, Sand Reed Grass, Wheat Grass, Bluestem Grass, Grama Grass, Brome Grass, Buffalo Grass, Switch Grass, Indian Grass, Wild Rye)) that existed in the area prior to European settlement.

Subd. 7. "Native plants" shall mean plants that existed in the area prior to European settlement.

Subd. 8. "Natural landscaping" shall mean the use of groups of plants native to the area.

Subd. 9. "Naturalistic landscaping" shall mean the use of native and nonnative plants.

Subd. 10. "Noxious weeds" shall mean plants so designated by the Commissioner of Agriculture pursuant to Minnesota Statute, those identified by Olmsted County, or USDA-APHIS.

Subd. 11. "Prairie" shall mean a plant community dominated by a diversity of native perennial herbaceous plants and grasses.

Subd. 12. "Regularly cut" shall mean mowing or otherwise cutting vegetation so that the dimension of the vegetation measured from the ground to the top of the vegetation(as extended upright) regardless if that is the blade of the vegetation or any other part of the plant does not exceed 12 inches in height.

Subd. 13. "Temporary Erosion Control Grasses" shall mean grasses (winter wheat, oats, annual rye or regreen) that are used as single growing season cover or nurse crops to assist in the establishment of permanent vegetation.

Subd. 14. "Traditional landscaping" shall mean the use of turf grasses and woody plants (shrubbery and trees) with defined areas for cultivation of annual and perennial plants.

Subd. 15. "Transitional period" shall mean the amount of time to change from one type of landscaping to another. The period should not extend three growing seasons for any specific area.

Subd. 16. "Turf grasses" shall mean bluegrass, fescue and ryegrass blends with non-woody vegetation interspersed with them commonly used in regularly cut lawns.

Subd. 17. "Weeds" shall mean prohibited noxious weeds as identified by the State of Minnesota Department of Agriculture, Olmsted County, or USDAAPHIS and any undesirable or troublesome plant that is horticulturally out of place exceeding the height limitations in this chapter. For the purposes of this ordinance, *Taraxacum* spp (common dandelion) is not considered a weed.

Exemption from nuisance regulation:

Maintained and weeded prairie, or natural/naturalistic landscape vegetation that does not contain noxious weed growth provided that the property owner applies for and is issued a natural or naturalistic landscape permit, and maintains the property in a condition sufficient to maintain the permit.

Permit requirements:

48.05. Natural or Naturalistic Landscape Permits. Natural or Naturalistic Landscape Permits are required if a proposed landscape includes grasses that exceed or are expected to exceed 12 inches in overall height. Permit applications shall be submitted to the Park Department.

48.06. Contents of Natural or Naturalistic Landscape Permit Application. The applications shall contain:

- A. The name and address of the applicant and the legal description of the property being permitted;
- B. A site plan for the area sought to be permitted. The scale of plan should be 1"=30' and include all adjacent properties and public streets and alleys;
- C. A general description of the vegetation types, plants and plant succession to be used; and
- D. A specific management and maintenance plan which shall include:
 - (1) The estimated transition period;
 - (2) The elimination of non-native or invasive vegetation;
 - (3) The replanting of the area by transplant or seeded by human or mechanical means;
 - (4) The maintenance of the area to a height of 12 inches or less if weeds cover more than 25% of the landscaped area equaling in excess of 144 square feet;
 - (5) The maintenance of all non-woody vegetation/grasses located in a buffer strip with a minimum distance of four feet from side and rear lot lines is to a height of 12 inches or less unless the

adjacent property owner has consented in writing that the buffer strip is not required, a copy of which is filed with the permit application; and

(6) Maintenance of all vegetation within 18 inches of any public street, walk, bikeway or alley to a height of 12 inches or less.

48.07. Issuance of Natural or Naturalistic Landscape Permit. The Park Department shall determine the completeness of the application and shall issue the Natural or Naturalistic Landscape Permit unless:

- A. The management and maintenance plan is incomplete or inconsistent with the application requirements; or
- B. The transition period for the area is longer than three growing seasons.

[\[link to ordinance\]](#)

United States Native Landscaping Ordinances Examples

Wayne, MI

https://codelibrary.amlegal.com/codes/wayne/latest/wayne_mi/0-0-0-53799

1219.06 PLANT MATERIAL STANDARDS.

(a) Minimum Requirements.

- (1) All landscape plans must include a minimum of fifty percent native plants.

Kane County, IL

Kane County's landscaping plan seeks to maintain and improve the ecological diversity of native plant species. The County applies its landscaping provisions to residential, commercial, and industrial sites.^[15] For industrial sites, the County requires a minimum of twenty-five percent of the area set aside for planting of native species.^[16] The owner or developer is required to select plants appropriate to local conditions and make improvements that restore diversity of onsite plant species.^[17] The County provides a list of approved plant species curated by local experts. In addition, the County requires the preservation of existing trees. The County further stipulates that when no native vegetation exists on the property, developers are required to plant at least two native tree species per lot.^[18] Finally, the County prohibits any disease prone, sterile clones, or plants with a negative rating from being planted within the County.

To view the provision, see [Kane County, IL, Subdivision Regulations § 19-127 \(2012\)](#).

Sanibel, FL

The City encourages the use of native plants for landscapes and prohibits invasive exotic vegetation.^[19] In Sanibel, new developments and redevelopments require a minimum 75% of native vegetation to be used in all landscaping with the remaining 25% restricted to only noncompeting plant species, while landscaping seaward of the 1974 Coastal Construction Control line is restricted to using only native species.^[20] Additionally, the City prohibits removal or transplanting of native vegetation without first obtaining a permit and holds the right to stop work or withhold a certificate of occupancy until vegetation deficiencies have been corrected.^[21] The City also requires removal of eight different invasive exotic species by all property owners.^[22] Properties are required not only to remove those invasive exotic species but keep such species permanently off the property, in addition to the City prohibiting the growing, propagating, or selling of such species on Sanibel.^[23] Furthermore, if the property owner is not applying for a development permit, the City provides financial assistance for removal of these species, and to assist in revegetation has a native plant nursery to provide readily available native vegetation for residents.^[24]

To view the provision, see [Sanibel, FL, Code of Ordinances § 122-169, 191 \(2004\)](#).

Schaumburg, IL

The City of Schaumburg provides a natural landscape provision within the zoning code to encourage the utilization of native plant species for landscaping improvements in recognition of the ecological, economic, and aesthetic benefits that native plant species provide.^[25] The City provides that tree and shrub species in natural landscaped areas must be 100% native plant species.^[26] Maintenance guidelines are provided, requiring at least one annual cutting to twelve inches or less or an annual burning obtained by permit through local agencies.^[27] The City does not limit natural landscaping to commercial or industrial lots but permits it in residential areas when a natural landscaping permit is acquired by the landowner.^[28]

To view the provision, see [Schaumburg, IL, Code of Ordinances § 154.136](#) (2014).

Minneapolis, MN

Minneapolis encourages and permits the use of native plant species by making installation and maintenance of natural landscapes a right with no application required.^[29] A significant barrier to the implementation of natural landscaping is the improper classification of native plant species as nuisances. Minneapolis eliminates this improper distinction by permitting natural landscaping and excluding it as a public nuisance when properly maintained.^[30]

The City defines a natural landscaping as a planned, intentional, and maintained planting of grasses, wildflowers, trees and shrubs. Natural landscaping is allowed to exceed maximum height and maintenance requirements of traditional turf landscapes.^[31] The City encourages native species in landscapes, but at a minimum, species used are required to be non-invasive and proven adaptable to the local climate.^[32]

To view the provision, see [Minneapolis, MN, Code of Ordinances §§ 227.90\(b\) \(2013\); 530.190, 200 \(2005\).](#)

Collier County, FL

Collier County applies landscaping requirements to all new commercial, industrial, and residential developments.^[33] For residential units, if minimum landscaping requirements are not met, the City requires the installation of such landscaping before a certificate of occupancy will be granted.^[34] The County requires plant species used to meet standards set out by Florida's Department of Agriculture and facilitates compliance by providing a Collier County native plant list and a map showing required native species planting zones.^[35] The County has also defined areas that require native landscaping. For example, in the area South and West of US-41, the County requires 100% native species when landscaping, whereas other sites not within these specific zones are required to have a minimum of 75% percent of plant species as listed in native species list.^[36]

To view the provision, see [Collier County, FL, Land Development Code § 4.06.05](#) (2018).

See also Preservation Standards at [Collier County, FL, Land Development Code § 3.05.07](#) (2018).

MUNICIPALITY OF _____
ORDINANCE NO. 2023-
IN MUNICIPAL _____, 2023

NATIVE PLANTING ORDINANCE

Sec. 1. TITLE.

This chapter shall be known and may be cited as “Municipality of _____ Landscape Ordinance Promoting the Use of Appropriate Native Vegetation.”

WHEREAS, Native Plants are localized, well adapted to the local soils and climate, tend to be more insect and disease resistant, and require less watering and fertilizing than non-native plants.

WHEREAS, local governments use native plant ordinances to improve the landscape principles that guide landscaping of all new development. Many communities find that the use of appropriate native vegetation in local landscaping helps achieve water conservation goals, preserves habitat in urban areas, greatly reduces landscaping maintenance costs, and protects property values.

WHEREAS, wildlife such as birds are more attracted to the Native Plants with which they co-evolved, and use such plants for food, cover, and rearing their young.

WHEREAS, Native Plants, having evolved in the climate, are extremely hardy and therefore have lower maintenance and replacement costs.

WHEREAS, in much the same way as saving an historic home, the use of Native Plants helps to preserve our local heritage.

WHEREAS, Native Plant usage helps restore the ecological balance we have lost through development and can help maintain, or even increase, property values.

Sec. 2. PURPOSE AND INTENT.

The purpose of these regulations is to establish minimum standards for the design, installation, and maintenance of landscaped areas that require the use of appropriate native vegetation and to promote the preservation of indigenous plant communities on site. The Municipality recognizes the significant benefits of establishing and protecting appropriate native vegetation and, therefore, the necessity to maximize the use of appropriate native vegetation in all public and private landscaped areas within the Municipality. It is the intent of this ordinance that these minimum landscape requirements be incorporated in order to promote the public health, safety, and welfare.

It is the intent of this ordinance that these minimum landscape requirements be incorporated in order to combat the climate crisis, species extinction, and global warming, and to promote the public health, safety, and welfare by: (a) Acknowledging that pollination is an essential ecological survival function, and without native plants and the pollinators that depend on them, the human race and all of earth's terrestrial ecosystems will not survive; (b) doing our part to reverse the massive decline in native pollinator populations from widespread use of pesticides in agribusiness, loss of habitat from development, and from our insistence on non-native plants in landscaping; (c) protecting and promoting genetically diverse and appropriate native vegetation; (d) promoting microhabitats in urban areas for the conservation of wildlife by establishing new, and maintaining and connecting existing, wildlife habitat; (e) creating larger, more connected plant populations and helping ensure the future of native plant species by increasing their ability to migrate in response to changes in climate; (f) promoting public health through the long term, widespread adoption of diverse native plantings; and (g) educating residents on the importance of native plant species and native pollinators to the ecosystem.

Sec. 3. DEFINITIONS.

- (a) Community Garden: a public or community use area intended for the purposes of gardening.
- (b) Community Play Area: public use areas, including school and athletic fields, composed of predominantly turfgrass intended for use for recreational purposes.
- (c) Endangered Plant: any plant species which is in danger of extinction throughout all or a significant part of its range.
- (d) Garden: a cultivated area dedicated to growing vegetables, fruits, annual and perennial plants, ornamental grasses, and ground cover in a well-defined location.
- (e) Invasive Plant: a plant reproducing outside its native range and outside cultivation that disrupts naturally occurring native plant communities by altering structure, composition, natural processes, or habitat quality.

(f) Landscaped Area: the entire parcel less the building footprint, driveway, non-irrigated portions of parking lots, hardscapes such as decks and patios, and other non-porous areas. Water features are included in the calculation of landscaped areas.

(g) Landscaping: any combination of living plants and non-living landscape material such as rocks, pebbles, sand, mulch, walls, fences, or decorative paving materials.

(h) Managed Natural Landscape: a planned, intentional, and maintained planting of native or non-native grasses, wildflowers, forbs, ferns, shrubs, or trees, including but not limited to rain gardens, meadow vegetation, and ornamental plantings. Meadow vegetation means grasses and flowering broad-leaf plants that are native to, or adapted to, and that are commonly found in meadow and prairie plant communities, not including noxious weeds.

(i) Native Plant: those species of plants occurring within a specific habitat or biogeographical region prior to European contact, according to best scientific and historical documentation. Those species of plants naturally occurring with a specific habitat.

(j) Pollinators: animals (primarily insect, but sometimes avian or mammalian) that fertilize plants, resulting in the formation of seeds and the fruit surrounding seeds, that humans and other animals rely on to produce nuts and fruits that are essential components of a healthy diet, and that the majority of flowering plant species found world-wide rely on to make the seeds that will become the next generation of plants.

(k) Rain Garden: a native plant garden that is designed not only to aesthetically improve properties, but also to reduce the amount of storm water and accompanying pollutants from entering streams, rivers, and lakes.

(l) Remove: to transport a native plant from the premises on which it has been growing.

(m) Straight Species: a native plant that is not a cultivar or has not been bred to emphasize or minimize certain traits of the parent plant. Naturally occurring hybrids of native plants shall be considered as Straight Species for the purpose of this ordinance.

(n) Threatened Plant: any plant species that is likely to become an endangered plant within the foreseeable future throughout all or a significant portion of its range, including but not limited to species listed as threatened, at risk, or listed as likely to become endangered by any federal or applicable state or county agency.

(o) Tree: a self-supporting woody plant having a single trunk or a multi-trunk of lower branches, growing to a mature height of at least twelve (12) feet.

(p) Turfgrass: continuous plant coverage consisting of a grass species that is mowed to maintain an established height.

Sec. 4. APPLICABILITY.

This ordinance shall be a minimum standard and shall apply to all public and private buildings, developments, subdivisions, and land within the incorporated and unincorporated areas of the Municipality.

Sec. 5. LIMITS ON WEED CONTROL LAWS.

No regulation shall be enacted by the Municipality or any person or entity which prohibits or discourages the planting, maintenance, or protection of native plants or requires or incentivizes the removal or reduction of native vegetation, except when deemed necessary for public safety.

Sec. 6. INCENTIVE PROGRAM.

The Municipality may provide incentives to promote the use of native plants. Examples of such incentives include: 1) fast track permitting for building and landscape permits; 2) reduced permitting fees; 3) certified native landscape programs/marketing; 4) tax breaks/user fee reductions; 5) payment or cost-share programs for removal of invasive species.

Sec. 7. INVASIVE PLANTS FORBIDDEN.

After the effective date of this ordinance, the Municipality shall not use or install any invasive plant in any Municipal property. Landowners shall not allow any invasive plants on their property.

Sec. 8. PRIORITIZING STRAIGHT SPECIES.

The Municipality shall, to the extent possible and to the extent such plants are reasonably available, prioritize using and installing native plants that are straight species on any Municipal property.

Sec. 9. MANAGED NATURAL LANDSCAPE.

An owner, authorized agent, or authorized occupant of any privately owned lands or premises may, consistent with this subsection and all other applicable laws, statutes, rules, and ordinances, install and maintain a managed natural landscape.

Managed Natural Landscapes shall not include any plant identified by any applicable government agency as a noxious weed. Managed natural landscapes may include plants and grasses of any height and which have gone to seed. Managed natural landscapes shall not include plants that, due to location and/or manner of growth, constitute a hazard to the public.

Sec. 10. MANAGED LANDSCAPE SET BACK.

The managed landscape must be set back from property lines by at least _____ feet. The setback is not required where the defined landscape area abuts another similar private or public landscape area, a wetland, pond, lake, or stream or if a fully opaque fence at least four feet in height is installed along the lot line adjoining the planned landscape area.

The managed landscape may be planted up to the property line.

Sec. 11. CONFLICTING REGULATIONS REPEALED.

All rules and regulations that are in conflict with this article, in whole or in part, are hereby repealed to the extent that they are in conflict.

Sec. 12. SEVERABILITY.

If any portion of this article is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate provision and shall not affect the validity of the remaining portions of the article.

Sec. 13. EFFECTIVE DATE.

This article shall take effect _____ days after it is enacted by the Municipality; provided, however, that this article shall not apply to any plantings carried out pursuant to existing contracts, invitations to bid, or designs completed prior to the effective date of this article.

Approved:

President

Council

Mayor

LETTER OF SUPPORT FOR FRIENDS OF THE ROUGE TO CITY OF LIVONIA RE: NATIVE PLANTS/ORDINANCES

Dear Members of the City Council,

I am writing on behalf of Natural Community Services (NCS) to express our strong support for the efforts of Friends of the Rouge and WildOnes to amend the City of Livonia ordinances to allow for native landscaping, rain gardens, the management of invasive plants, and the removal of barriers to green infrastructure implementation.

As an organization dedicated to ecological restoration and sustainable landscape design, we recognize the significant environmental, economic, and social benefits that these practices can bring to our community. Native landscaping and rain gardens not only enhance the aesthetic appeal of our neighborhoods but also play a crucial role in improving water quality, reducing stormwater runoff, and providing habitat for local wildlife.

The management of invasive plants is essential to preserving the integrity of our native ecosystems. Invasive species can outcompete native plants, leading to a loss of biodiversity and negatively impacting the health of our natural areas. By allowing for the proactive management of these species, we can protect and restore the ecological balance within our community.

Furthermore, removing barriers to green infrastructure implementation is vital for promoting sustainable development and resilience against climate change. Green infrastructure, such as permeable pavements, green roofs, and bioswales, helps to manage stormwater, reduce urban heat islands, and improve air quality. These practices are not only environmentally beneficial but also cost-effective in the long term.

We commend Friends of the Rouge and WildOnes for their dedication to these important issues and their efforts to create a more sustainable and resilient Livonia. We urge the City Council to support these proposed ordinance changes and to recognize the value of integrating native landscaping, rain gardens, invasive plant management, and green infrastructure into our city's planning and development processes.

Thank you for your consideration.

Sincerely,

John DeLisle



LETTER TO THE LIVONIA CITY COUNCIL

3.

Council Office
February 5, 2026

MEETING DATE

LE031626/R032326

PRESENTED BY

Brandon McCullough Chair
Eileen McDonnell Vice Chair
Martha Ptashnik Member

AGENDA ITEM

The subject matter of Charter process improvement. (CR 36-26)

BACKGROUND DETAILS

At the Regular Meeting of January 14, 2026:

On a motion by Councilmember McCullough, supported by Councilmember McDonnell, and unanimously adopted, it was:

#36-26 RESOLVED, that having considered the request of Councilmember Brandon McCullough, supported by Councilmember Eileen McDonnell, at the Regular Meeting held January 14, 2026, the Council does hereby refer the subject matter of a Charter Process Improvement to the Law and Education 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. R011426 Subject matter of charter Process Improvement to LE CR 36-26

APPROVED BY

Regular Meeting Minutes of January 14, 2026

On a motion by Councilmember McCullough, supported by Councilmember McDonnell, and unanimously adopted, it was:

#36-26 RESOLVED, that having considered the request of Councilmember Brandon McCullough, supported by Councilmember Eileen McDonnell, at the Regular Meeting held January 14, 2026, the Council does hereby refer the subject matter of a Charter Process Improvement to the Law and Education Committee for its report and recommendation.

<i>RESOLUTION REQUESTED BY COUNCILMEMBER BRANDON MCCULLOUGH (Regular Meeting of January 14, 2026)</i>
--

Motion: Budzinski
Second: Ptashnik
Ayes: Brockway, McCullough, McDonnell, Budzinski, Persiconi, Ptashnik, Reid
Nays: None
Absent: None



LETTER TO THE LIVONIA CITY COUNCIL

4.

Council Office
February 5, 2026

MEETING DATE

LE031626/R032326

PRESENTED BY

Brandon McCullough Chair
Eileen McDonnell Vice Chair
Martha Ptashnik Member

AGENDA ITEM

The subject matter of residential property enforcement. (CR 37-26)

BACKGROUND DETAILS

At the Regular Meeting of January 14, 2026

On a motion by Councilmember McCullough, supported by Councilmember Budzinski, and unanimously adopted, it was:

#37-26 RESOLVED, that having considered the request by Councilmember Brandon McCullough, supported by Councilmember Carrie Budzinski, at the Regular Meeting held January 14, 2026, the Council does hereby refer the subject matter of residential property enforcement to the Committee of Law and Education 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. R011426 Subject matter of residential property enforcement to LE CR 37-26

APPROVED BY

Regular Meeting Minutes of January 14, 2026

On a motion by Councilmember McCullough, supported by Councilmember Budzinski, and unanimously adopted, it was:

#37-26 RESOLVED, that having considered the request by Councilmember Brandon McCullough, supported by Councilmember Carrie Budzinski, at the Regular Meeting held January 14, 2026, the Council does hereby refer the subject matter of residential property enforcement to the Committee of Law and Education for its report and recommendation.

<i>RESOLUTION REQUESTED BY COUNCILMEMBER BRANDON MCCULLOUGH</i> <i>(Regular Meeting of January 14, 2026)</i>

Motion: Budzinski
Second: Ptashnik
Ayes: Brockway, McCullough, McDonnell, Budzinski, Persiconi, Ptashnik, Reid
Nays: None
Absent: None



LETTER TO THE LIVONIA CITY COUNCIL

5.

Council Office
February 10, 2026

MEETING DATE

LE031626/R032326

PRESENTED BY

Brandon McCullough Chair
Eileen McDonnell Vice Chair
Martha Ptashnik Member

AGENDA ITEM

The subject matter of exterior lighting and luminosity from businesses. (CR 66-26)

BACKGROUND DETAILS

At the Regular Meeting of February 9, 2026

On a motion by Councilmember Budzinski, supported by Councilmember Ptashnik, and unanimously adopted, it was:

#66-26 RESOLVED, that having considered the request by Councilmember Budzinski, supported by Councilmember Ptashnik, at the Regular Meeting held February 9, 2026, the Council does hereby refer the subject matter of exterior lighting and luminosity from businesses to the Committee of Law and Education 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. R020926 Subject matter of exterior lighting and luminosity from businesses CR 66-26
2. S012626 BMcCullough request for exterior lighting to LE Committee Minutes
3. R012626 Letter from resident recd 01-26-26
4. R121901-Outdoor lighting policy

APPROVED BY

**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD JANUARY 26, 2026**

Meeting was called to order at 9:21 p.m. by President Reid. Present: Brandon McCullough, Eileen McDonnell, Robin Persiconi, Carrie Budzinski, Vice President Brockway, President Reid. Absent: Martha Ptashnik.

Elected and appointed officials present: Carter Fisher, City Attorney; David Lear, Assistant City Engineer.

Request by Councilmember McCullough to refer to the Law and Education Committee the topic of exterior lighting and luminosity with a motion to be made at the next meeting.

January 26, 2026

Dear Council Members,

Our community's night time appearance has suffered from bad outdoor lighting, which has made many areas in our city take on a trashy appearance at night. Much of this bad lighting is used by, but not limited to gas stations, car washes, fast food restaurants, convenience stores, and the streetlights on Plymouth road and in Wonderland mall. (As a side note, the Plymouth road street lights are the only roadway lights in Livonia that are not shielded, as the policy mandates) Part of the problem with the lighting is by design. It shines at high angles and/or has excessively high output levels. Light that shines at high angles or horizontally causes annoying glare which also:

- Gives the area a trashy, prison yard, ghetto like appearance.
- Reduces safety because of glare, which interferes with vision for drivers and pedestrians on nearby roads. This problem is greater for the elderly and those with vision problems. I have noticed this a bit as I am a little older now.
- Reduces awareness of activity. A passerby or policeman's attention is drawn to the bright lights, and is diverted from store/service station activity.
- Shines in residential property and windows in many cases.
- Appears to serve no purpose except advertising.
- Is just being an obnoxious eyesore.

All one has to do is drive by one of these areas and look to notice the above.

To aggravate the above problems even more, excessive levels of lighting compounds the problem. Excessive illumination and glare is more of a problem in some neighboring communities, especially those which are less desirable. But it is also here in Livonia and spreading. Pictures of some of these and other examples have been enclosed with this letter.

Another problem which needs to be addressed is extremely bright lighting, especially with the newer Light Emitting Diode (LED) floodlighting. See attachment for examples. Because these fixtures are so bright, they create an incredible amount of harsh glare. Again, this amount of glare from fixtures with such high illumination levels degrades the area's night time aesthetics, and jeopardizes safety due to impairment of vision, and not to mention the several negative environmental impacts. This should be reviewed and addressed before it gets more out of hand like it has in neighboring cities.

Also, another problem that has arisen over the past 25 years, is lighting intensity. Because of newer LED technology, light or 'lumens' per watt has increased. Because of this, intensity abuse has become more of a major issue. Even if lighting is shielded and directed down/away from adjacent properties, it is still a big problem as the brightness alone reflects off of other surfaces creating significant light trespass and environmental issues. In some cases in Livonia, the sky is so lit up from these installations, literally a newspaper or other document can be read easily from the light pollution alone from these lights from almost a mile away.

Livonia's Outdoor Lighting Policy needs to be amended to address this!

There is nothing in the current policy that does.

Other advantages would include a good environmental image. By limiting illumination levels and preventing waste by shielding, you also limit electricity used and pollutants caused from power generation. Also, this would benefit certain plant life, animals, and insects that are sensitive to outdoor lighting, which the world has become more aware of over the past quarter century. Local stargazing would also benefit, as shielding and reducing excessive illumination would prevent the pure waste of light being sent into the sky, making the stars more visible as obscuring light pollution would be reduced. Unfortunately, over the past 25 years, visibility of the stars have taken a major hit due the extreme increase in illumination levels. You can barely see the big dipper these days in south Livonia because of this. A true tragedy.

However, if we do want to "save the stars" specifications must be made to prevent light spillage into to sky and address extreme illumination levels. Many communities have already created specifications and ordinances to prevent bad/out of control outdoor lighting. In some of those communities you can really see a difference, and as a result, their night time environment has taken on a "classy" appearance in many respects. From my over 40 years experience with outdoor lighting practices, I have clearly seen there is a direct correlation with quality, non-excessive outdoor lighting and the desirability of said area with very little deviation. Examples or communities with excellent non-excessive outdoor lighting and comprehensive/enforced outdoor lighting ordinances include and are not limited to: Hilton Head, The Hamptons, Sedona and Prescott Arizona, and San Diego. Also, I have clearly observed that the much less desirable communities have the most terrible, trashy, and excessive lighting.

By addressing and revisiting Livonia's outdoor lighting, Livonia could be a national leader in excellent night time aesthetics and safety. With Livonia's current Outdoor Lighting Policy and implementation, it is clear that Livonia is a leader in good outdoor lighting practices when comparing the City to surrounding communities. Again, our city would have a much nicer night time appearance and improving the over all image of Livonia by amending, enforcing the policy, and just having an over all awareness of good lighting practices.

Sincerely,

Eric J. Fitzpatrick
9327 Montana
Livonia, MI 48150-3779
(734) 612-2887
efitzpat123@gmail.com



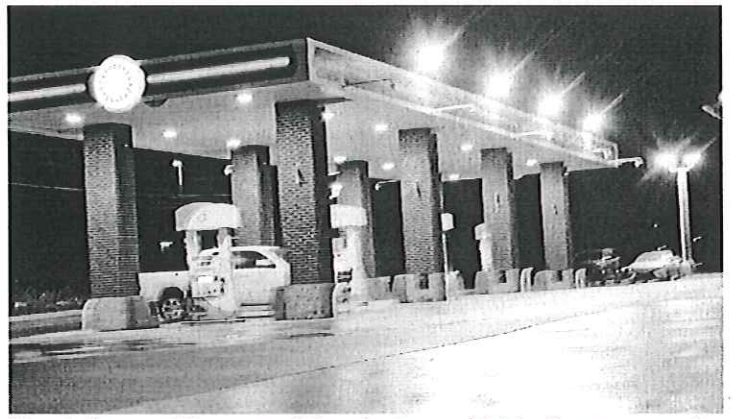
PRDA streetlights and Dealerships N. side of Plymouth by Hubbard. Although the dealership lights are shielded and pointing down as the policy says, the light intensity is very extreme. The residential properties on the S. side of Plymouth are lit up like day, and the sky is so bright from this, almost a mile away you can read a newspaper from the light pollution alone mostly caused by these lights. This is compounded by the Plymouth road street lights, which are way more brighter than other streetlights Livonia. Also, the custom made Plymouth road street lights are in no way shielded, brightly shine into many homes, and do not adhere to Livonia's outdoor lighting policy.



Properties brightly lit up by the Plymouth road streetlights and said dealerships. For starters, if these dealerships followed the policy's recommendation of at least turning off a reasonable amount of the lights at 11:00 p.m., it would give some decent relief to the problem. Not to mention reducing the high levels of sky glow seen from miles around.



Other properties lit up by the Plymouth road streetlights and said dealerships. These two properties only represent a small fraction of properties significantly impacted by the extreme light trespass/pollution from this installation.



Gas station on SE corner of Farmington and I-96. By no means do the 4 canopy lights or pole lights adhere to the policy. Plus they are excessively bright which high intensities are more easily achievable with the newer LED technology.



SE corner of Ann Arbor trail and Wayne. Again, this does not meet the Outdoor lighting policy's requirements at all ('aimed or shielded to minimize stray light..., prevent light trespass..., do not shine directly into a window...'). Because of this, several residential properties in the area are lit up brightly and have excessive, obnoxious lights shining on their property and in their windows all night long whether the property owners like it or not.



A fraction of the properties horrendously lit up by the example to the left (Ann Arbor trail and Wayne).

R030701

CR 112-01 RESOLVED, that having considered a letter from Eric J. Fitzpatrick, 9327 Montana, dated February 8, 2001, with regard to the safety, aesthetics and environmental concerns of excessive or inappropriate outdoor lighting at various businesses throughout the City, the Council does hereby **refer the subject of considering establishment of a new policy or ordinance regulating excessive outdoor lighting in the City of Livonia to the Mayor** for a report and recommendation.

CR 113-01 RESOLVED, that having considered a letter from Eric J. Fitzpatrick, 9327 Montana, dated February 8, 2001, with regard to the safety, aesthetics and environmental concerns of excessive or inappropriate outdoor lighting at various businesses throughout the City, the Council does hereby **refer this matter to the Streets, Roads and Plats Committee** for its report and recommendation..

R051601

CR 329-01 RESOLVED, that having considered the report and recommendation of the Streets, Roads and Plats Committee, dated May 1, 2001, submitted pursuant to Council Resolution 113-01, and a letter from Eric J. Fitzpatrick, 9327 Montana, dated February 8, 2001, with regard to the safety, aesthetics and environmental concerns of excessive or inappropriate outdoor lighting at various businesses throughout the City, the Council does hereby refer the **subject of a proposed Policy for Outdoor Lighting for Businesses throughout the City and whether City ordinances should be amended to incorporate the suggestions made by Mr. Fitzpatrick to the Administration for its report and recommendation.**

R121901

CR 776-01 RESOLVED, that having considered the report and recommendation of the Department of Law, dated November 27, 2001, submitted pursuant to Council Resolution 329-01, and a letter from Eric J. Fitzpatrick, 9327 Montana, Livonia, Michigan 48150, dated February 8, 2001, with regard to the safety, aesthetics and environmental concerns of excessive or inappropriate outdoor lighting at various businesses throughout the City, the Council does hereby **approve of the City of Livonia Outdoor Lighting Policy, dated October 31, 2001, as attached to the aforementioned report from the Department of Law and does hereby request that the Planning Department and/or Inspection Department take all steps necessary to implement this policy.**

DEPARTMENT OF LAW

CITY ATTORNEY
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CHIEF ASSISTANT CITY ATTORNEY
Cathryn K. White

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November 27, 2001

TO: HONORABLE MEMBERS OF THE CITY COUNCIL

FROM: DEPARTMENT OF LAW

SUBJECT: Policy for outdoor lighting for businesses

REF: Council Resolution 329-01

Dear Council Members:

Your resolution 329-01, adopted at the regular meeting of May 16, 2001, referred to the Administration the subject of a proposed policy for outdoor lighting for businesses throughout the City, and the question whether to amend City ordinances to incorporate suggestions made by Mr. Eric Fitzpatrick to the Council's Streets, Roads and Plats Committee at its May 1, 2001 meeting. A proposed policy is enclosed, although no ordinance changes are recommended at this time.

Land use regulations are set forth in the Zoning Ordinance. This would be the logical place to insert any new regulations on outdoor lighting. However, existing uses are generally protected by law from the application of new amendments to the Zoning Ordinance, meaning that any such regulations would only apply to new construction, or to premises which require site plan amendments. Given the essentially developed nature of the City, it is probably too late to reorient outdoor lighting for businesses throughout the City, regardless of what ordinance changes are adopted.

Moreover, the general tendency toward State-imposed uniformity in construction codes and related regulations makes it unclear how much additional regulation the City can impose by ordinance.

To: Honorable Members of the Council
Re: Policy for outdoor lighting for businesses

November 27, 2001
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Nevertheless, Mr. Fitzpatrick made some good recommendations and these have inspired the attached City of Livonia Outdoor Lighting Policy. As the Policy indicates, it will be considered as part of the site plan review process. That would appear to be the best vehicle for addressing these concerns. The policy was developed by the Planning Department, in consultation with the Law and Inspection Departments, and avoids needlessly technical and hard-to-enforce rules in favor of principles to be applied generally.

It is hoped that this policy will satisfy the purposes of Council Resolution 329-01.

Approved for submission:

Very truly yours,

Jack E. Kirksey, Mayor

Sean P. Kavanagh, City Attorney

Michael E. Fisher, Asst. City Attorney

Mark Taormina, Planning Director

David Woodcox, Director of Inspection

MEF:mv

Attachment

cc: Mayor, Clerk, Council, Planning, Inspection

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CITY OF LIVONIA OUTDOOR LIGHTING POLICY

The City of Livonia finds it necessary to establish guidelines for the installation of exterior lighting in all non-residential zoning districts. The purpose and intent of establishing these guidelines are as follows:

- To reduce glare and light pollution as a result of unnecessary and improperly designed light fixtures.
- To prevent light trespass into residential homes.
- To provide safe roadways for motorists, cyclists and pedestrians.
- To conserve energy by promoting efficient and cost effective lighting.
- To allow for flexibility in the style of lighting fixtures.
- To provide sufficient illumination for safety, convenience and security.
- To assist residents, business and property owners, city departments, the Planning Commission, City Council, and other governmental agencies in bringing outdoor lighting into conformance with the purposes of this policy.

The City of Livonia Inspection Department shall consider the following guidelines and criteria at the time a building permit is applied for, and in the case of projects that require the review and approval of a site plan by the Planning Commission and/or City Council, such guidelines shall be considered as part of the site plan review process. The Inspection Department or Planning Department may request additional information, as it deems necessary in determining whether or not the following guidelines are being met. Such information may include, but shall not be limited to: lighting plans with a layout of the proposed fixture locations; photometric data showing the spatial distribution of the output of the proposed fixtures; and manufacturer's catalog cuts that present a description of the equipment, including glare reduction devices, lamps, and mounting heights.

- 1) All light fixtures should be located, aimed or shielded so as to minimize stray light trespassing across property boundaries.
- 2) Pole mounted lights should not exceed a height of 20 feet as measured from the surface of the parking lot or ground surrounding the base of the proposed light fixture. Exceptions will be allowed in cases where there are unique circumstances due to topography, or the location and size of the parking lot in relation to residential districts and public thoroughfares is such that increasing the height of the light poles will not cause a nuisance or result in any safety hazards.
- 3) Flat lens "shoebox" or full cutoff design with horizontally aligned flush-mounted (non-protruding) lens style light fixtures are preferred over sag-lens or drop lens fixtures, which tend to waste energy and produce unnecessary glare.

- 4) Any canopy structures should have recessed lights with diffusers, which do not extend below the surface of the canopy. Canopy mounted sag-lens or drop lens fixtures are discouraged.
- 5) Where security is a concern, fluorescent and metal halide lamps are preferred source of outdoor lighting.
- 6) Directional fixtures such as floodlights, spot lights and sign lights should be installed or aimed so that they do not shine directly into the window of a neighboring residence, directly into a roadway, or skyward. Photocells with timers that allow a floodlight to go on at dusk and off by 11:00 p.m. are encouraged.
- 7) All outdoor light fixtures should be equipped with or be capable of being back fitted with light directing devices such as shields, visors or hoods when necessary to redirect offending light distribution.
- 8) All non-essential exterior lighting is encouraged to be turned off after business hours and/or when not in use. Lights on a timer are encouraged. Sensor activated lights are encouraged to replace existing lighting that is desired for security purposes.
- 9) The use of mercury vapor lamps is discouraged.

Regular Meeting Minutes of February 09, 2026

On a motion by Councilmember Budzinski, supported by Councilmember Ptashnik, and unanimously adopted, it was:

#66-26 RESOLVED, that having considered the request of Councilmember Brandon McCullough at the Study Meeting held January 26, 2026, regarding the subject matter of exterior lighting and luminosity from businesses, the Council does hereby refer this item to the Law and Education Committee for its report and recommendation.

Jerry Karasinski, Bainbridge Ave., noted an urgent care that opened on Seven Mile Road near his home that has very bright lights.

Eric Fitzpatrick, Rosedale Gardens, stated the Plymouth Road street lights do not comply with Livonia's policies, they should be retrofitted, and requested a review of the ordinance.

<i>UNFINISHED BUSINESS ITEM 15 (Regular Meeting of February 9, 2026)</i>
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Motion: Budzinski
Second: Ptashnik
Ayes: McDonnell, Budzinski, Persiconi, Ptashnik, Brockway, McCullough, Reid
Nays: None
Absent: None