



DETROIT

STORMWATER HUB

[detroitstormwater.org](http://detroitstormwater.org)

*Collaboratively Tracking Public & Private GSI Projects in the City*



# DETROIT

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## STORMWATER HUB

# PROJECT BACKGROUND

*In 2016, the community recognized a need for a tool that would bring together the collective expertise of the various groups working on GSI in the city of Detroit.*

*With the support of the Erb Family Foundation, a number of public and private sector groups came together to **develop a tool to better understand, collaborate on, and ultimately track the progress and impact of GSI city-wide.***



- 1. Increase awareness** of current green infrastructure practices and community GSI resources in the City of Detroit
- 2. Build community support** around green infrastructure
- 3. Support the advanced coordination and implementation** of green infrastructure practices throughout the city through a unique partnership between DWSD and community organizations
- 4. Demonstrate the success** of GSI

# Total Projects

# 203

Total Acres Managed

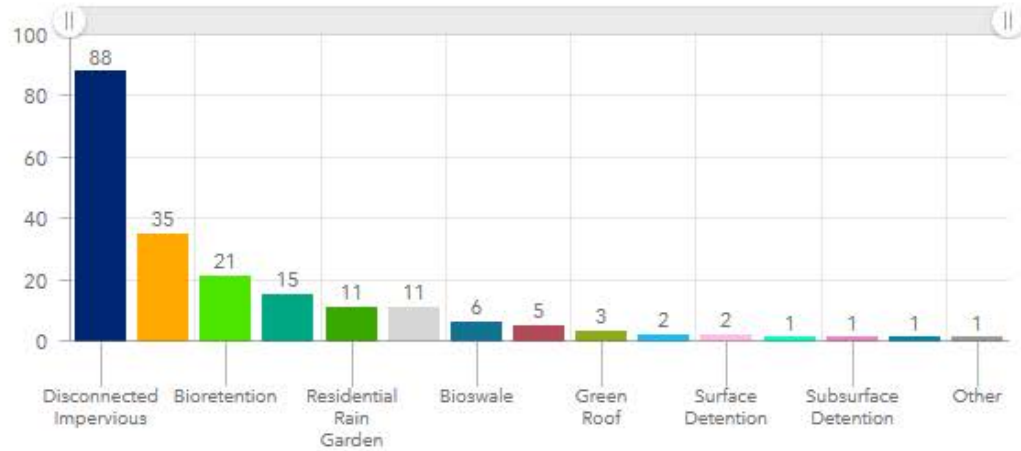
# 632.8

Millions of Gallons

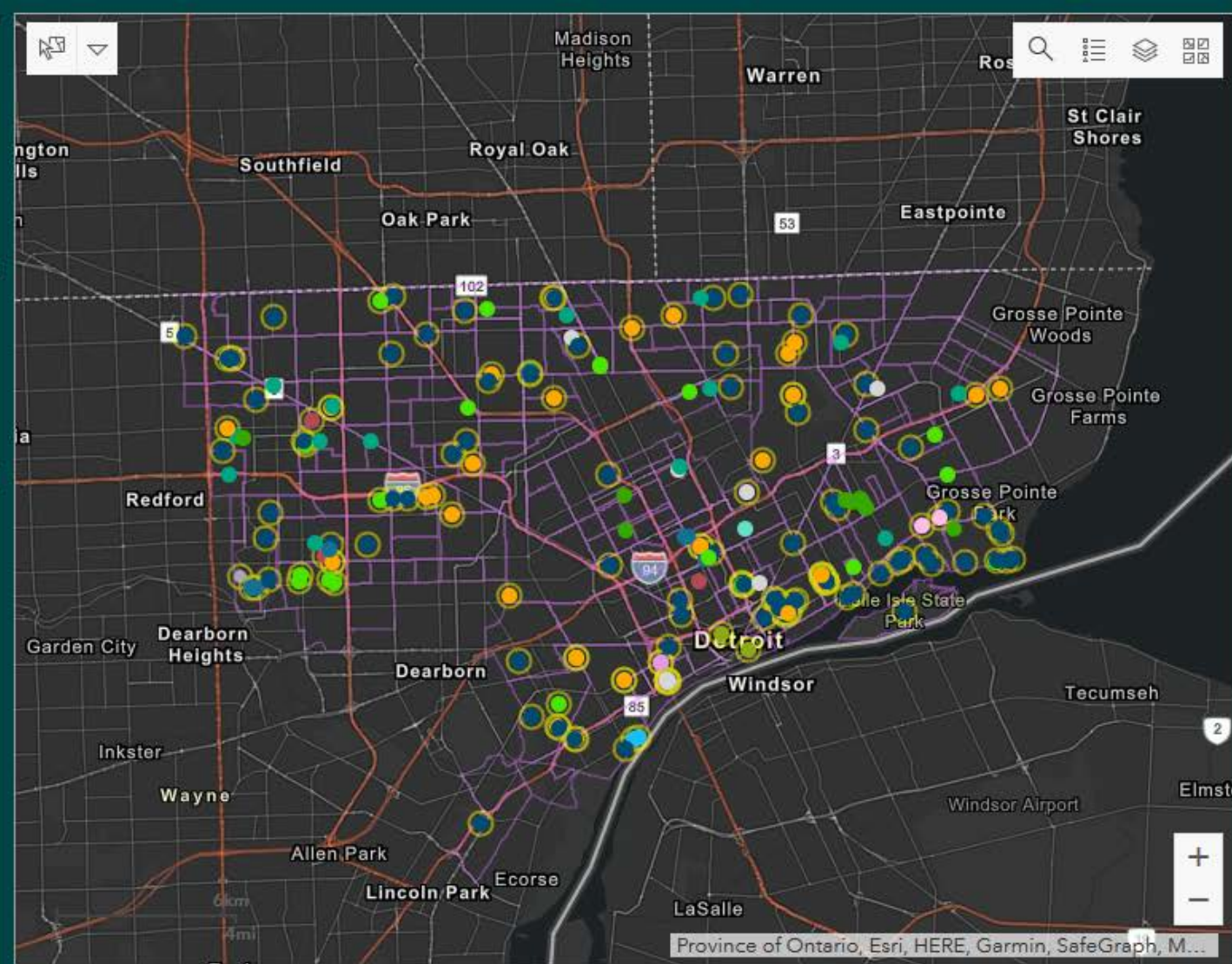
# 363.6

Managed Annually

Projects by GSI Type  
(Click graph to filter)



Last update: a few seconds ago



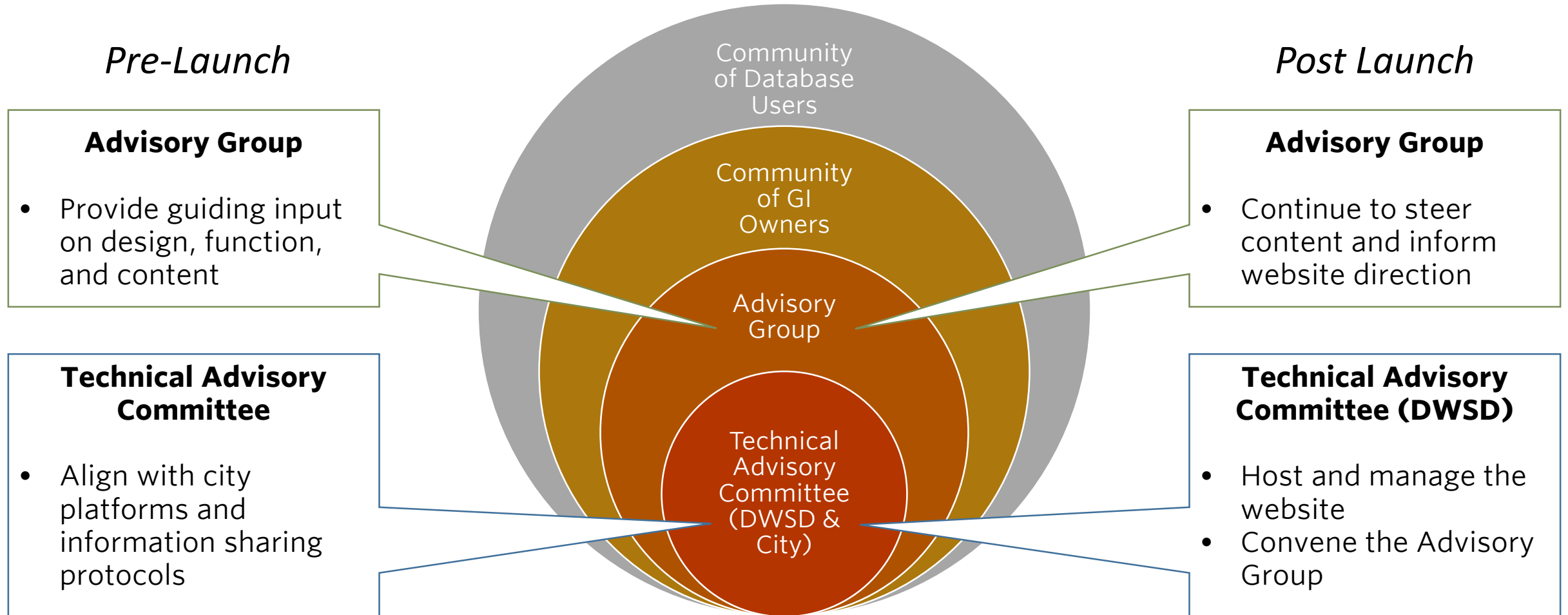
This website includes public, private, and community GSI projects. As such, the metrics below are unofficial and may differ from officially reported NPDES permit metrics.

# DetroitStormwater.org

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## STORMWATER HUB

# WHO WAS INVOLVED



# DETROIT

## STORMWATER HUB

# WHO WAS INVOLVED

## Advisory Group



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## WHO WAS INVOLVED

### Technical Advisory Committee

DWSD  
Stormwater  
Management  
Group

DWSD IT  
Department

City of Detroit  
Web Team

DWSD  
Public Affairs

DWSD  
GIS Team

City of Detroit  
Office of  
Sustainability



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## STORMWATER HUB

## HOW WE BUILT IT

### Timeline

#### Phase 1

Summer 2016 - 2017

- Collected initial private project dataset
- Created prototype map
- Created prototype website (PDF layout) included desired content categories and parameters for the map/inventory

#### Phase 2

2018 - 2019

- Defined users
- Built website
- Integrated private data with DWSD public database
- Created comprehensive map
- Promoted the launch

#### Phase 3

2020 -


- Managed by DWSD
- Advisory Group continues to meet
- Continue to add/improve data

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## HOW WE BUILT IT

### User Groups

<b>1. Property Owners and Tenants</b> 	Residential
	Commercial/Institutional/Industrial
	Non-profit/Faith-based
<b>2. Professional Sectors and Practitioners</b>	Designers
	Installers
	Engineers
<b>3. Individuals and Organizations Engaged in Community Development</b>	Maintainers
	Non-profit/Faith-based
	Government
	Research Institutions

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## HOW WE BUILT IT

### Phase 2 – Creation and Launch

Website

Map, Form &  
Database

Narrative  
Content

Resources

Promotions

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## STORMWATER HUB

### Website

- Contracted with a Drupal developer
- Worked closely with TAC/City Web Team to make it fit with other city sites
- Input from the Advisory Group throughout

The screenshot shows the Detroit Stormwater Hub website. The header includes the logo "DETROIT STORMWATER HUB" and navigation links: "GSI in Detroit", "Projects", "GSI Resources", "FAQs", "About Us", "SUBMIT A PROJECT", and "CONTACT". The main heading is "Green Stormwater Infrastructure (GSI)" with a play button icon. Below this is a paragraph: "Detroyers are using natural solutions to capture and filter excess rainwater to help reduce flooding and untreated combined sewage discharges into our rivers. The Detroit Stormwater Hub provides a place to share Green Stormwater Infrastructure projects, access resources and learn from one another." A second paragraph reads: "Together, we're committed to making Detroit the greenest city in America!" A "View Map >" button is visible. The featured project section shows a photo of a bioretention area and text: "Featured GSI Project", "Hamilton Rainscape Learning Lab", "5503 NEWPORT", "DRAINAGE CREDIT: NO", "PUBLIC OR PRIVATE: PRIVATE", "INSTALLER: MICHIGAN HARDSCAPE", "View >", and "Share". The footer contains the text "GSI Projects: Find and view projects by neighborhood and type of project." and a "View Map >" button.

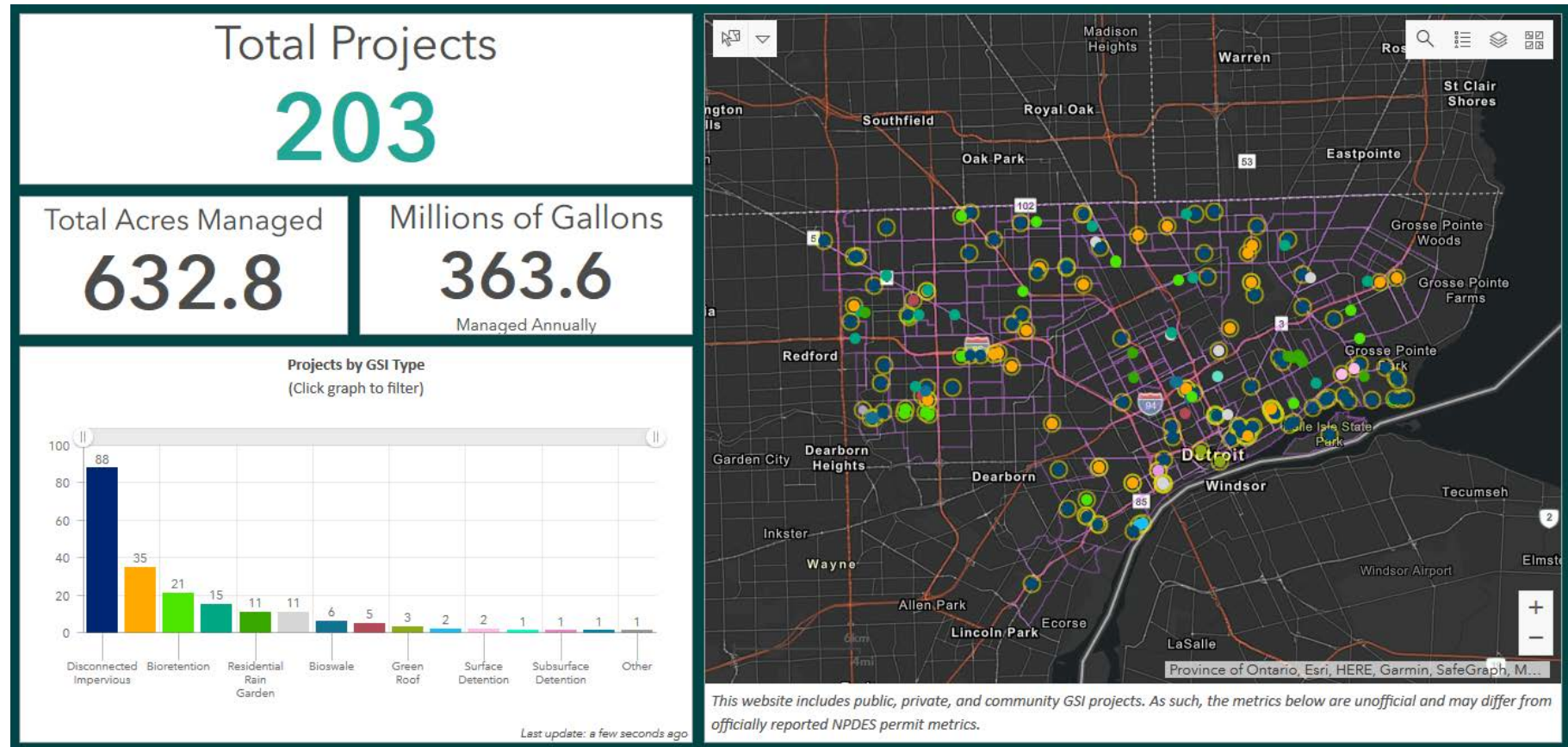
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## STORMWATER HUB

# HOW WE BUILT IT

### Map, Form & Database

- Contracted with a GIS developer
- Worked with TAC/DWSD GIS Team to integrate with existing data
- Input from the Advisory Group throughout



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## HOW A PROJECT GETS ON THE MAP

### Three channels

Drainage Credit Application

Post Construction  
Stormwater Management  
Ordinance Compliance

Public form on  
Detroit Stormwater Hub





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## STORMWATER HUB

# HOW WE BUILT IT

### Narrative Content

- Written/ reviewed by Advisory Group
- Reviewed by DWSD Public Affairs team

## GSI & STORMWATER BACKGROUND INFORMATION

### FAQs

#### Frequently Asked Questions:

What is green stormwater infrastructure? +

Why is GSI important? +

Is GSI expensive? +

Where do I start if I want to build a GSI project? +

## GSI DEFINITIONS



Bioretention



Green Roof



Stormwater/  
Constructed Wetlands



Bioswale



Impervious  
Surface Removal



Subsurface  
Detention



Direct Discharge



Permeable  
Pavement



Subsurface  
Infiltration



Disconnected  
Impervious



Rain Barrel



Tree-based  
Practices



Downspout  
Disconnection



Residential  
Rain Garden



Water Harvesting

## TESTIMONIALS



- PALENCIA MOBLEY, P.E., DEPUTY DIRECTOR & CHIEF ENGINEER, DETROIT WATER AND SEWERAGE DEPARTMENT -



- DR. NEIL C. HAWKINS, PRESIDENT, FRED A. AND BARBARA M. ERB FAMILY FOUNDATION -



- ERMA LEAPHART, CONSERVATION ASSOCIATE ORGANIZER, GREAT LAKES PROGRAM, SIERRA CLUB MICHIGAN CHAPTER -



### Resources

- Collected and categorized by WSU Healthy Urban Waters program staff
- Reviewed and updated by Advisory Group & DWSD

#### Stormwater Management Design Manual

A detailed guide to various GSI practices, including design, calculating size, and operation and maintenance.

Organization: DWSD

Published date: 11/1/2018

[View Fact Sheet](#)

● Bioretention ● Green Roof ● Impervious Surface Removal ● Permeable Pavement  
● Residential Rain Garden ● Subsurface Detention ● Water Harvesting

#### Rain Garden Guide

Guide to the benefits of rain gardens and detailed steps on how to install them.

Organization: Friends of the Rouge Sierra Club

[View Report](#)

● Residential Rain Garden

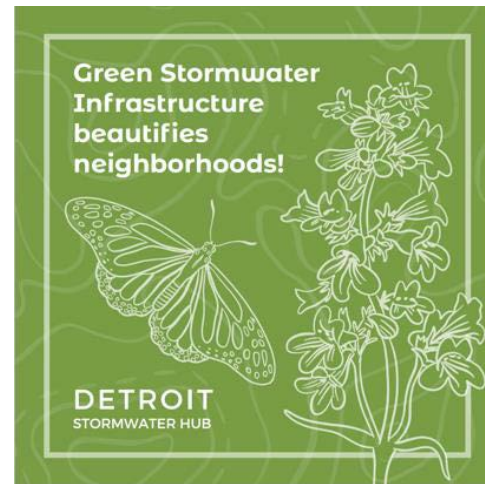
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## STORMWATER HUB

## HOW WE BUILT IT

### Promotions

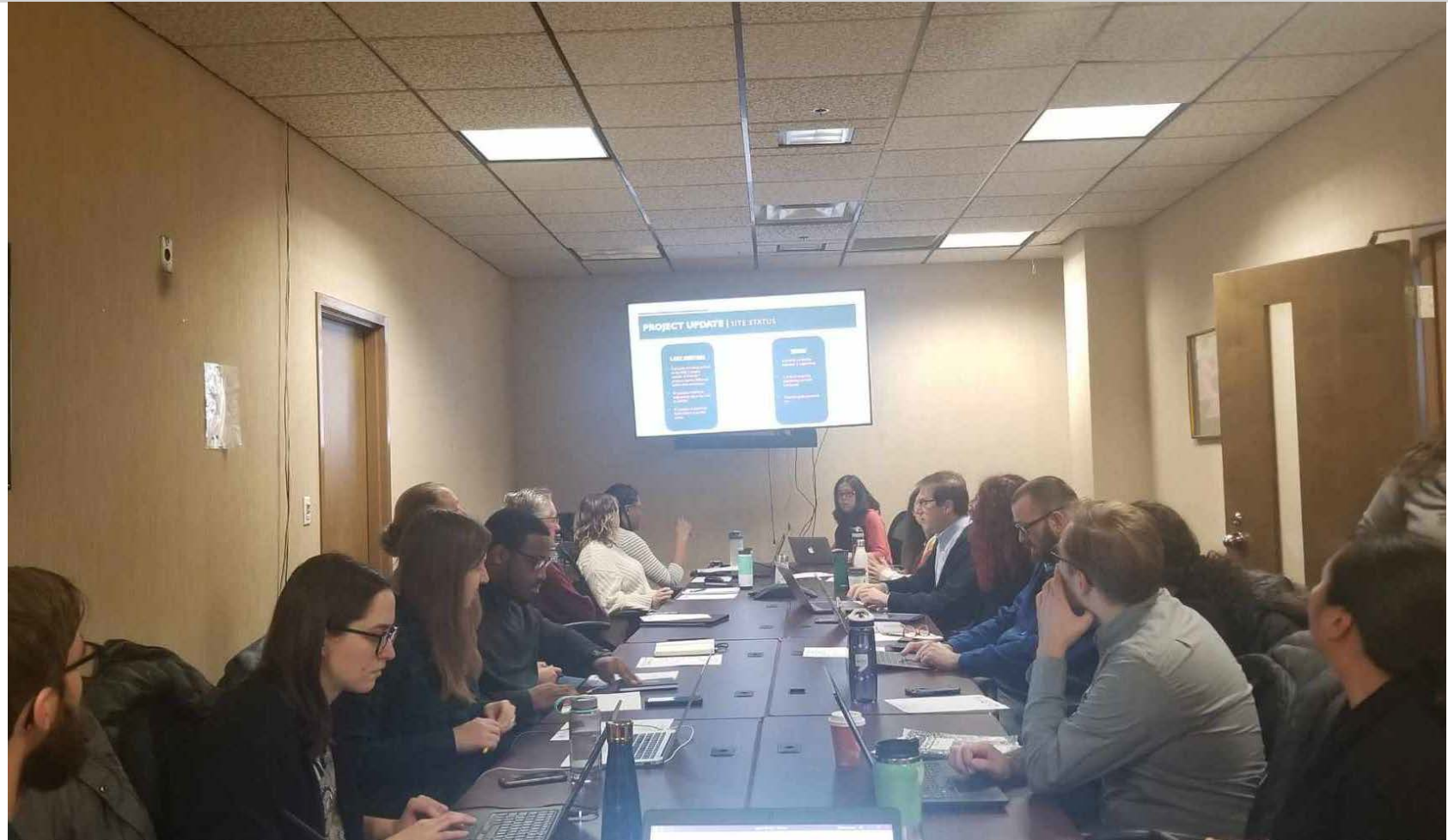
- Contracted with a marketing firm
- Input from the Advisory Group throughout
- Worked with DWSD Public Affairs to ensure these met City requirements





- Define the user groups clearly and early, and continue to highlight this decision
- Think about what data to collect as an early step
- Work closely with technical teams
- Document roles – We used a project charter
- Leverage the group to promote and communicate
- Collaboration of this kind takes time

- The Advisory Group continues to meet and improve the site with DWSD leading
- We're seeing website traffic!
- The regional Great Lakes Water Authority is starting a similar project using this as a model



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## STORMWATER HUB

## WHAT'S NEXT

1. Continue to promote
2. Continue to improve project data and website usability
3. Potentially add more analytic capabilities



**THANK  
you!**



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**Sam Haapaniemi**

The Nature Conservancy

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