

# WATERWAYS

City of Madison Engineering Division  
Annual Stormwater and Sewer Utilities Newsletter

[cityofmadison.com/engineering/stormwater](http://cityofmadison.com/engineering/stormwater)

FALL, 2021

## Help the City Prioritize Flooding Projects

The questions, “How do you decide which flooding improvement projects get done first?” Or “when will my project be completed?” come up often from residents in public information meetings, focus groups, site visits and around the table planning the city’s stormwater infrastructure. These are not easy questions to answer since the projects tend to be very expensive and complex. There are also many more projects than what the City can currently fund. Now, City Engineering wants to know what the community thinks should be prioritized with a new survey available on the Engineering Division’s website.

“The survey asks residents to rank flooding issues from low priority to high priority. The purpose is to help us understand the concerns and how they impact the community while building budget equity in the decisions we make,” Janet Schmidt, City Engineering Stormwater Manager and Principal Engineer said. “We want to know what they [the community] think we should be working on, because sometimes improvements can’t be seen on a map or in the numbers. It comes from experience or sometimes decades living in a certain neighborhood.”

The survey asks about the following topics, among others, when it comes to prioritization: flood reduction in communities that need assistance to evacuate; areas that flood most frequently, regardless of how deep; flood reduction in the greatest total area of the city, regardless of structures, roads, services; flood reduction along roads; flood reduction around commercial properties and businesses; flood reduction on emergency routes; and more. All the topics are aimed at creating an equitable way to choose and prioritize improvements.

City Engineering is tasked with designing, building and maintaining the City’s stormwater system, which is a system of pipes and local waterways that move stormwater in and out of our community. The stormwater system is important because it is what protects us from flooding, and it can also be the reason for flooding as well.

City Engineering is constantly looking for ways to improve the stormwater system. This is important because the system design standards have changed drastically with advancements in technology over the last hundred years, starting from limited information, resources and funding toward stormwater infrastructure, to a lot of attention on a system that drastically impacts our community, especially during wet seasons.

Take the flood survey today: [cityofmadison.com/engineering](http://cityofmadison.com/engineering)



Engineer Phil Gaebler answers a resident question while in the Wingra West watershed as part of the Division’s watershed study focus groups. The Engineering Division developed the flood prioritization survey after fielding questions from the community.

## A Word from the City Engineer, Rob Phillips

We continue to build our engagement program to reach you as we work to improve our City’s infrastructure. From virtual public information meetings, to translating our City’s Flooding website into multiple languages, to hearing from residents on what flooding projects we should prioritize, this year has provided a wide range of opportunity to connect with our community in different ways on different mediums. Our flood project prioritization survey is out now for any resident to complete. I encourage you to learn more (Front Page) and let us know what projects should be complete sooner than later. Our progress with green infrastructure is highlighted on page 2 with an update on the City’s first permeable street. We’re seeing more residents join us in meeting our 1,000 rain garden goal, learn more on how to pick your rain garden plants (page 2), and then send in your photos to be added to the map. Lastly, consider subscribing to our Engineering Division podcast (page 4), to learn about all the different programming we offer, including ways we work with other City agencies to support stormwater goals in the City of Madison. It’s more imperative than ever to connect with one another, and we invite you to take part in these programs, visit our new Engineering Division website and share with us your experience as you join our journey toward more resilient infrastructure in the City of Madison.

It’s an honor to continue serving you.

*Rob Phillips*

## City Engineering to Include More Green Infrastructure

City Engineering is moving forward to include more green infrastructure in the City of Madison. The City will fund two DGI street reconstructions each year, with a maximum cost of \$600K starting in 2022. This new commitment comes after the City began a Green Infrastructure Study in 2020. The 2020 work included the City's first permeable paved road on St. Clair Street in the Westmorland neighborhood. Permeable pavement is a type of green infrastructure that collects stormwater into the ground which ultimately reduces the amount of stormwater flowing into sewer systems or to surface waters.

It's been a year since the pavement was installed. Within this time, the Streets Division has maintained the permeable pavement by vacuuming the streets with a vacuum street sweeper during the spring and fall seasons. The pavement is infiltrating stormwater as planned.

This is one of many different types of Green Infrastructure that has been implemented in the surrounding study areas of Holly Avenue, Euclid Avenue, Toepfer Avenue, and St. Clair Street. The City will share which upcoming projects will include green infrastructure when they are decided.

## Plan, Pick, Plant Your Rain Garden

When you build a rain garden, it is important to select plants that not only will look great but last in Wisconsin weather and withstand the site's soil, sunlight and shade conditions. Native plants, non-native perennials or cool season turf grasses are best for rain gardens. We recommend native plants specifically for their deep roots, which improve soil infiltration. The roots create more space in the soil for water to soak into. From providing a pollinator-friendly habitat, to encouraging healthy water quality, these plants have endless amounts of benefits for the community. When choosing plants consider the following:

- » Soil types: sand, silt, clay
- » Sunlight levels: full sun or partial sun
- » Plant characteristics: height of mature plant, bloom period, toxicity advisory

Find a full list of resources at [cityofmadison.com/Engineering/Stormwater](http://cityofmadison.com/Engineering/Stormwater)

## Watershed Studies Focus Next on Starkweather Watershed

The City of Madison Engineering Division is taking its next step in its Watershed Studies this year by focusing on the Starkweather Watershed, a large portion of the east side of the City.

The Engineering Division first began the watershed studies in January of 2019 following the historic flooding of 2018.

"We started working on the parts of the city that had been hit the hardest in the last several years, which is the west side," Engineering Division Stormwater Section Manager and Principal Engineer Janet Schmidt said. "We are progressing to the east side. We are trying to coordinate the rest of the studies with major street projects or major development."

There are 13 watershed studies that are in progress or near completion. A total of 23 citywide watershed studies are to be completed in the next 4-5 years. A watershed is an area of land where precipitation that falls on it, drains to a common waterway, such as a stream or lake. The watershed acts like a funnel by collecting all the water within the area and channeling it to a single point.

It is important to study watersheds to prevent future flooding in our community. These studies provide us with the information we need to improve Madison's stormwater conveyance system.

This year's achievements so far include, "Finalizing the reports for Spring Harbor, Stricker's/Mendota and Wingra West this summer and fall, followed by approval. There are several others that will have the final public information meeting this fall including, Greentree/McKenna, Dunn's Marsh, Pheasant Branch and East Badger Mill Creek. Then, those will likely move to approval in winter/spring of 2022," Schmidt said.



## Click Around the New Engineering Division Website

The City of Madison Engineering Division new website is live and filled with resources for the community to use, learn from and engage with like never before.

The revamped website has a new look, plus it has new features that are multimedia-focused, such as videos, new podcast episodes, in-depth visuals, active calendars and interactive maps which promote public engagement on all levels.

You will see new resources and educational pages within each tab you click on, building out what Engineering does to serve our community including new features in stormwater such as tools and guides, a stormwater drainage system explainer as well as a layout of the history of stormwater in our community.

The Engineering Division is divided into eight main sections that are responsible for the design and construction of different areas of infrastructure in the city. The new website will dive into each section and explain the kind of work each area does on a daily basis, what programs are available for residents and resources for potential clients with the City.

"We want you to see and to be able to understand what is happening behind the scenes of the City," City of Madison Engineering Division Public Information Officer Hannah Mohelnitzky said. "We field a lot of questions from the community. We know there's a lot to sort through when it comes to understanding government structure, so if we can put out a resource that can clarify what we do as a division, hopefully that will help connect our community with answers."

Visit the new City of Madison Engineering Website today: [cityofmadison.com/engineering](http://cityofmadison.com/engineering).

### Available Medians



View Larger Map

### Eligible Medians

Any residential traffic median spaced less than 20 feet or more that has an existing planting bed within the City limits that hasn't already been adopted is eligible for the program. Check out City of Madison



The Adopt-A-Median map is just one of several new features found on the new Engineering Division website. Each section of the website has new videos, maps and more for residents to use.

## New Watershed Study Flood Risk Map Now Available

The City of Madison Engineering Division has **created a new, interactive map** that shows more information focused on historic flooding, and potential risk of flooding in our stormwater system in the City.

The new map shows flooding impacts, stormwater infrastructure and flooding routines.

Viewers are able to see how much water the stormwater system can handle within specific locations, down to the street level.

To use the map, users enter in a specific address(s) and then can closely see that particular area's stormwater infrastructure levels. The map shares the extent and depth of flooding anticipated during a 1 percent annual chance storm.

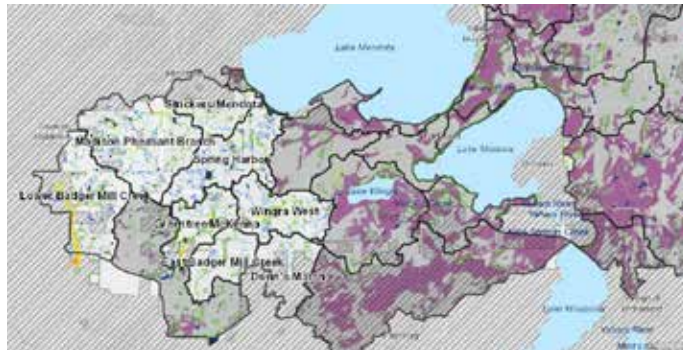
When looking at the map, if deep water is detected, it doesn't necessarily mean there is an issue. It could be a channel in which Engineering specifically designed the water to go to. However, if you spot deep water next to buildings, roadways or other property, that may mean that those locations are more likely to flood due to their area's infrastructure not being able to handle heavier storms.

These maps were created using stormwater models that have been calibrated to real world conditions and represent a reasonable estimate of existing conditions. However, users of this map should keep in mind that this map is based on a model and is only a representation of real world conditions. Specific conditions at any exact location may alter the expected flood depths beyond the ability of the model to estimate.

The new map was one of many projects completed under the City of Madison Engineering Division's Watershed Study Program that launched in January of 2019, following the historic flooding in 2018. See page 2 article on Watersheds.

Studying watersheds will guide our City's stormwater system ahead. To use and view the map, visit [cityofmadison.com/engineering/stormwater](http://cityofmadison.com/engineering/stormwater).

The more-detailed Watershed Study Flood Risk Map shares more specific detail down to the street level. The information and data will continue to be updated as the Watershed Studies continue.



## New map shows available medians to adopt

Make a match with an adoptable median in your neighborhood. It's quick and easy with a new map featured on the Engineering Division website [cityofmadison.com/engineering/stormwater/programs-initiatives/adopt-a-median](http://cityofmadison.com/engineering/stormwater/programs-initiatives/adopt-a-median) and online application process.

Here's how it works:

1. Find your prospective median on the map. All available medians are green.
2. Complete the online application and participant waiver.
3. Consider plant selection. Check out the plant list on the Engineering Division website. You will be sent additional information and resources on median maintenance, such as where to get vests, cones and safety signs.
4. You've poured hard work into your plants, so share your progress! Email your photos of your median to [engineering@cityofmadison.com](mailto:engineering@cityofmadison.com). If you share on social media, please tag Engineering on Facebook and @MadisonEngr on Twitter.



This Nodding Onion native plant is just one example of several different native plants residents can choose when planning to adopt an available median on the City's new Adopt-A-Median Map.

Finally, know that your volunteer efforts are appreciated! The Adopt-A-Median program is one way for residents to get involved in improving public infrastructure. You are helping to reduce the cost to the City for median maintenance while improving the overall appearance and environment in Madison.



## Four questions to ask your winter maintenance professional

You may be deciding to hire a contractor to maintain your sidewalk and driveway this winter. However, it's important you select a company that helps reduce the amount of salt that goes into local waterways. Here are four questions to ask your contractor to ensure they're using the correct amount of salt:

**Question No. 1:** Are you Wisconsin Salt Wise Certified?

**Answer No. 1:** If yes, great. If not, visit [wisaltwise.com](http://wisaltwise.com).

**Question No. 2:** Are you following the **Dane County guidelines for application rates** based on temperature and type of storm?

**Answer No. 2:** They should answer yes, or yes, but. The standards are not set in stone, but they are good guidelines to follow. Winter maintenance professionals who clear snow and ice from parking lots, sidewalks, and trails can use locally-tailored application rate guidelines for using the least amount of salt to get the job done. They can also voluntarily become certified, to demonstrate to their clients that they work for their safety and for the protection of our lakes, streams and drinking water.

**Question No. 3:** Can you tell me how much salt you put down after an event?

**Answer No. 3:** If they're not measuring and calibrating equipment, it's really difficult to put down the right amount of salt.

**Question No. 4:** Am I paying for a level of service or price per amount of salt?

**Answer No. 4:** We recommend for a level of service, because then the contractor isn't encouraged to put down that little bit extra salt to make the trip more profitable.

You can always find more ways to reduce salt at [WISaltWise.com](http://WISaltWise.com).

## Sign Up for Text Rain Alerts/Leaf Tea

Reducing phosphorus in our area waterways can be as easy as a text message. Leaf-Free Streets Rain Alerts are text message alerts that remind you to remove leaves from the street before rain storms.

More than 50 percent of the annual amount of phosphorus in urban stormwater can come from leaves in the street. When it rains, stormwater flows through leaf piles in the streets creating a “leaf tea” which is rich in dissolved phosphorus. This “leaf tea” travels through storm sewers to area lakes, rivers and streams. Too much phosphorus leads to toxic algae blooms, low oxygen levels and green murky waters.

The City of Madison worked with United States Geological Survey and have observed how leaves impact water quality. Our study found that if we remove leaves before every fall rain, we can reduce phosphorus by 80 percent. Leaves on the road pose the biggest impact. Leaves on lawns and terrace have a minimal impact. Mulching the leaves in place on your lawn is a triple win. Mulching reduces the amount of leaves the City has to collect, benefits your lawn and improves the quality of our lakes. In addition, many people find mulching in place easier than raking.

So when fall comes around, properly disposing of leaves is recommended.

Sign up for Leaf-free Streets Rain Alerts to remind yourself to move your leaves off the street, and onto your terrace, before the next rain fall. Alerts will be sent via text or email 1-2 days before a rain event remind you that it's time to remove street leaves. Alerts will only sent between Oct. 1-Nov. 30 during peak leaf fall. Sign up at [ripple-effects.com/leaf-free-streets](http://ripple-effects.com/leaf-free-streets).



Keeping streets free of leaves is important when it comes to reducing phosphorus in our local waterways. Don't forget to subscribe to text alerts so you don't forget to remove them before the next fall rain event.



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