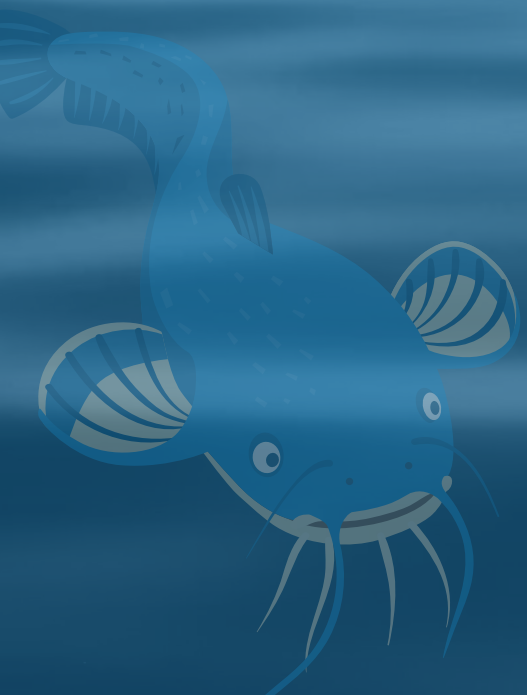
STORMWATER MANAGEMENT PROGRAM

2022 ANNUAL DISCHARGE MONITORING REPORT

THE CITY OF Fargo
FAR MORE



PREPARED BY
Kevin Morlan
Engineer Tech. III

Introduction and Description

The 2022 Discharge Monitoring Report is given in a format in conjunction with the NDR04-0000 permit. Presented sequentially to follow the permit elements, the report begins with general requirements and progresses through the six Minimum Control Measures. Highlighted or example documentation is provided at the end of each section as appropriate. A growing number of resources are digital or linked to AutoCAD/GIS, which is available for audit upon request.

The **Fargo MS4 Compliance Summary** is a matrix of Part V of the NDR04. This table illustrates compliance responses spanning each control measure and the MS4 Program overall in abridged exhibits. Please see each separate measure for topic specific criteria responses.

Evaluation and Assessment

Evaluation, assessment and effectiveness of goals, projects and BMPs is conducted annually. Fargo's MS4 Program meets compliance goals set locally and by the state NDR04 permit requirements. Results of these measures and recommended changes are consolidated on a summary sheet (MS4 Compliance Summary) at the end of this section.

MS4 Program Map

Fargo perpetually maintains a state of the art geographic information system (GIS) and AutoCAD mapping program of the complete infrastructure system (permit items IV.E.a-f). These platforms calculates all property areas and components of the municipal systems. This map is available for viewing at the office but is unavailable for outside access due to security concerns.

MS4 Operated Facilities

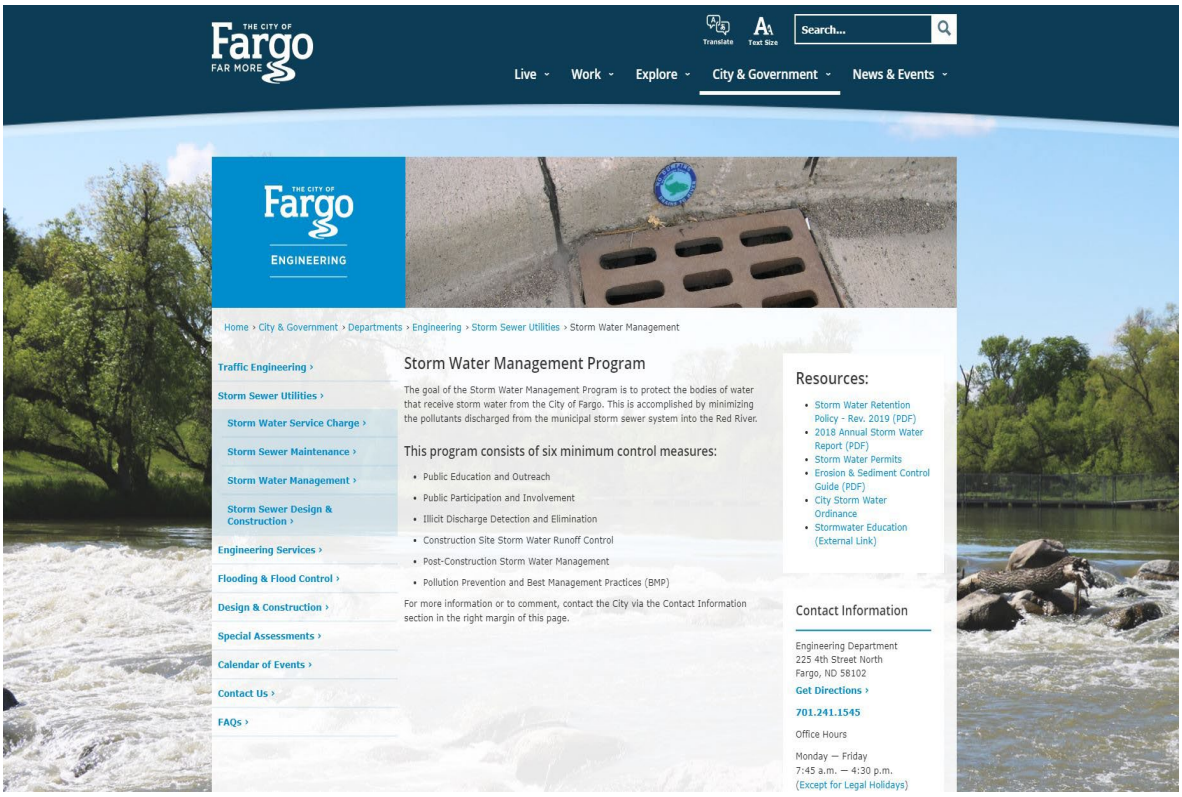
Fargo Wastewater and Solid Waste entities operate under separate stormwater permits. Please contact each department for their specific permit requirements.

Pollution Assessment (Identified Pollutants)

Fargo has identified pollutants and specifically lists them in the Stormwater Ordinance (Chapter 37 of the City of Fargo Municipal Code). The ordinance lists obvious water degrading agents or practices, but it also states that any action or process that diminishes water quality is a violation. Stopping or reducing negative discharge is the goal of not only the regulation, it is the essence of the entire stormwater program.

Reduction/removal of these pollutants is accomplished by structural (retention, detention ponds, grit chambers, etc.) and non-structural (prescribed discharge rates, compliance practices, etc.) BMPs.

Public Availability
This report is made available to the public online at: [The City of Fargo - Storm Water Management]
The MS4 program and related operational documents are available upon request during business hours.



Shared Program Agreements with other MS4s
The City of Fargo and North Dakota State University have an agreement that the city performs construction permitting and inspection on campus. NDSU is responsible for all other reporting elements in the permit.

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Fargo MS4 Compliance Summary

	(NDR04-V.c.1) Permit Status Compliance: BMP Assessment & Evaluation	(NDR04.V.c.2, 3) Measurable Goals Compliance, Progress, Completed	City of Fargo MS4 Compliance Summary	(NDR04-V.c.5) Future Planned Activities	(NDR04-V.c.6) Changes to BMP or Measurable Goals	(NDR04-V.c.7,8) Responsible Entity	(NDR04-V.c.9) Violations Issued	Reviewed	
MS4 Program Overall	Complies, BMPs adequate	All MCM Goals meet compliance and were completed.	Fargo's MS4 Program is effective in addressing & reducing non-compliant discharges.	Additional studies, new reporting capabilities may enhance or expand goals.	No changes are planned for 2022 beyond the studies.	Fargo Storm Sewer Utility	138 (Excludes Environmental Health and Wastewater Treatment Departments)	1-6-23	*See individual Minimum control Measures for detailed information and supporting documentation.*
MCM-1 & 2	Complies	Completed	Effective	Maintain As-is	No Changes	SSU		1-6-23	
MCM-3	Complies	Completed	Effective	Maintain As-is	No Changes	SSU		1-13-23	*Most information in the report is available online www.FargoND.gov/city-government/departments/engineering/storm-sewer-utilitie/stormwatermanagement*
MCM-4	Complies	Completed	Effective	Maintain As-is	No Changes	SSU		1-20-23	
MCM-5	Complies	Completed	Effective	Maintain As-is	No Changes	SSU		2-3-23	
MCM-6	Complies	Completed.	Effective	Maintain As-is	No Changes	SSU		2-9-23	*Pleae direct any questions/comments to stormwater@FargoND.gov*
								2-23-23	

MCM 1 & 2

Stormwater Education Program

Involvement
Outreach
Participation

Minimum Control Measures 1 & 2

Fargo's Stormwater Education Program

In summary, the MS4 Permit Minimum Control Measures (MCM) 1 & 2 require the city to provide education, outreach, public participation and involvement opportunities. We must specifically address construction and post-construction pollution prevention, illicit discharges and methods to reduce negative discharges, while conducting our municipal operations. Additionally, we must develop a method to quantify our educational effectiveness and provide a method to adjust the programming.

Our education program integrates the requirements prescribed under these MCMs. Collectively, the Fargo Stormwater Education Program uses a "based" learning approach to educate, inform and involve people concerning Stormwater's impact on water quality. Although water quality is not a new concept today, polluting agents and practices might not be obvious in people's minds. Our program helps inform the public about water polluting practices and what they can do to reduce or eliminate them. Learning and participation is focused toward target audiences and utilizes a variety of activities, projects, methods and mediums to educate and inform people about stormwater and water quality.

We have specifically designated construction, municipal maintenance operations and the "public" as our target audiences. The targets were selected based on perceived need, impact potential, MS4 requirements and the ability to deliver programming. Learning delivery to these segments is scheduled and consists of direct or implied, activities, projects or techniques. For instance, consider that soil migration is of primary concern at a construction site, yet it also occurs at a flower bed. Where a construction site has specific Best Management Practices (BMPs) that must be utilized, an implied concept of awareness (that soils migrate) may be adequate to the flower bed scenario. Education may be a simple billboard message (Inquiry Based) or specific technical training (Problem Based), depending on the audience or practice.

How we measure the education program's effectiveness is yet another challenge. Quantification is one method. We simply count people participating in training seminars, providing feedback or the number of projects delivered (fact sheet or other), violations issued, sediment or trash removed, etc. The following pages highlight our program's architecture, complete with illustration tables, graphics, images and examples of the actual materials utilized in the delivery of the program. The final section is focused on program performance measures (evaluation) and adjustment methodology.

MCM 1&2 Education, Outreach & Involvement

Audience	Pollutant (group)	Goals	Activities	Messages	Implementation/ Schedule	Entity	Performance Measures	Adjustment Method	Reviewed	Modification Recommendations
Construction	A, C, D	Acquired skill/behavior change	Problem-based learning • On-site evaluation • Classroom instruction	• Specific construction related • Use BMPs to reduce soil & trash migration • Contain chemicals/lubricants • Reduce other negative impacts	Annual, continuous during construction season	THE CITY OF Fargo FAR MORE	• Participation count • Permit/violation report • Complaint log • Staff referral • Maintenance record	• Yearly program review • Direct contact • Verbal interaction with partners, other agencies and facilitators	1/20/2023	Continue to improve annual spring Stormwater Conference
General Public	A, C	Awareness	Inquiry-based learning • Classroom instruction • River Keepers programming • Fact sheet/newsletter • Demonstrations • Billboard	• Your actions impact stormwater • Reduce water quality degrading practices • Report illicit (prohibited) discharges	Continuous, seasonal	Learn·Sustain·Enjoy RIVER KEEPERS	• Participation count • Permit/violation report • Complaint log • Staff referral • Maintenance record	• Yearly program review • Direct contact • Verbal interaction with partners, other agencies and facilitators	1/6/2023	Continue water quality device & retention ponds log and inspections
Municipal Operations	A, C, D	Acquired Skill	Project-based learning • Training video • Presentation	• Municipal operations impact stormwater • Water quality degrading observations • Report illicit (prohibited) discharges	Annual rotating basis, some departments may also provide in-house training	THE CITY OF Fargo FAR MORE	• Participation count • Permit/violation report • Complaint log • Staff referral • Maintenance record	• Yearly program review • Direct contact • Verbal interaction with partners, other agencies and facilitators	2/2/2023	Continue accurate reporting and recording between Public Works Superintendent and SSU staff

Fargo's Storm Sewer Utility Staff

Our staff conducts related environmental education and outreach learning activities along with other City staff, core partners and related entities. The concept of water quality in stormwater discharge is the goal of the education, involvement and participation programming.

Facilitators

- The City of Fargo Storm Sewer Utility (SSU) is responsible for the Stormwater Program's administration.
- Contributors include City departments: Environmental Health, Solid Waste, Public Works and Wastewater Treatment.
- Fargo River Keepers is a core partner promoting stormwater/ecology education to the general public. Classroom instruction, lab activities and public involvement/participation projects comprise their basic curriculum.
- Other entities delivering similar educational programming include: Red River Basin Commission, local watershed districts, Cass County Soil Conservation, Homebuilders of Fargo/Moorhead etc and NASECA North Dakota.

Home Builders Association of Fargo-Moorhead

1802 32nd Avenue South · Fargo, ND 58103 · (701) 232-5846 · hbafm.com · info@hbafm.com

Ready for the Thaw? Stormwater Training with NASECA

March 10, 2022

Home Builders Association of F-M

Welcome to our training hosted in conjunction with North Dakota's chapter of North American Stormwater and Erosion Control Association (NASECA)!

Help yourself to water and soda in the refrigerators as well as snacks and coffee on the counter.

Restrooms are available in the hallway just outside the conference room or in the basement through the door on the south wall.

Today's Main Presenter

Dallas Grossman

North Dakota Department of Environmental Quality

Questions & Answers

Fargo:	Christine Goldader, *NASECA Board Member*, Civil Engineer I Kevin Morlan, Engineering Tech III
Horace:	Brenton Holper, City Administrator
Moorhead:	Andrea J. Crabtree Nayes, Utilities Engineer
West Fargo:	Chad Zander, City Forester

NOT A MEMBER BUT WANT TO BE?

Contact Spencer Carlson, Business Development Coordinator

spencer@hbafm.com | (701) 232-5846

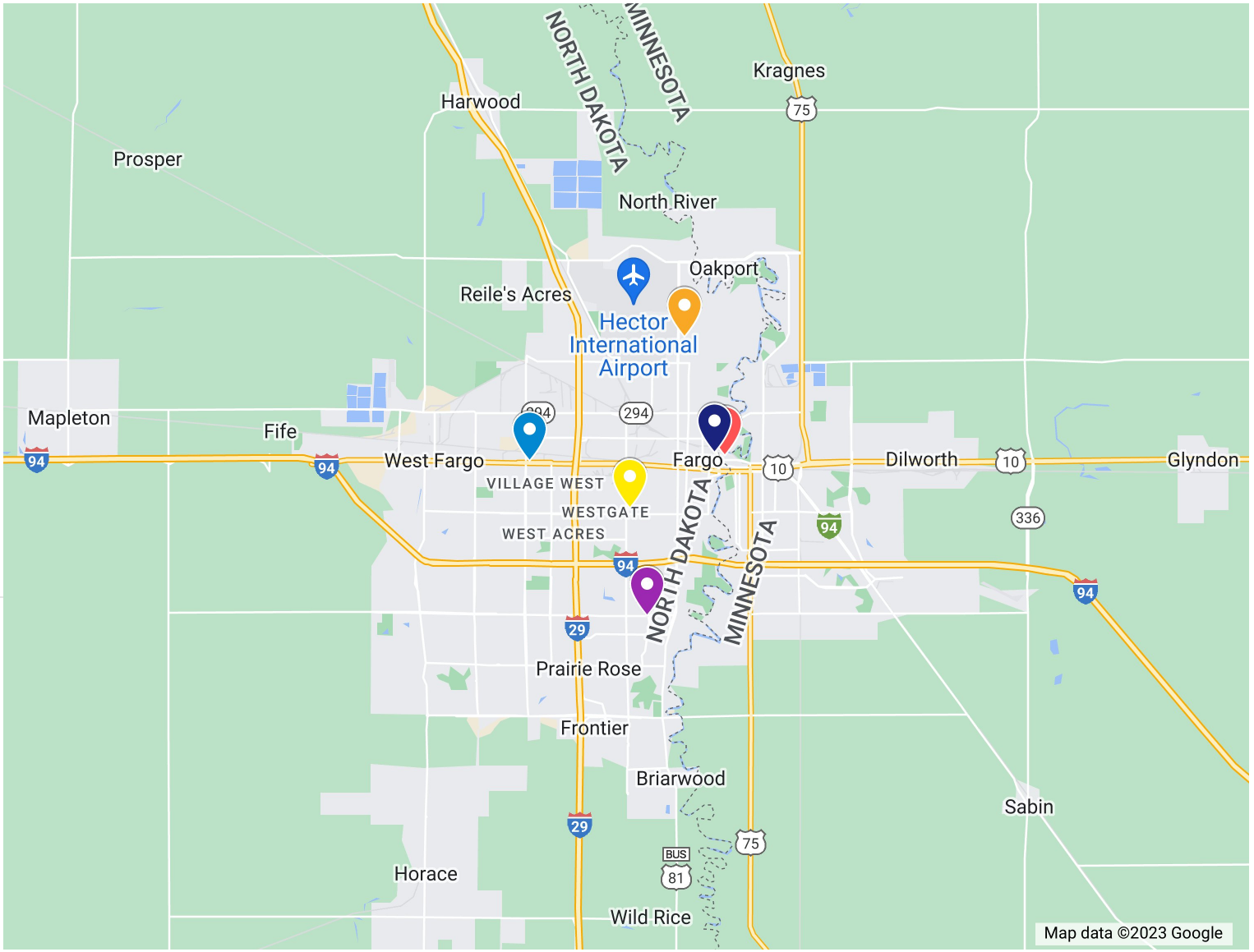
THANK YOU!

We appreciate your support of the HBA of F-M's educational sessions and mission.

Public Involvement & Outreach Map - 2022

Legend

- Red River Water Festival
- Fargo City Hall
- River Keepers
- Fargo Cass Public Health
- Billboard Location
- HBA



Example of contribution by other facilitators

The City of Fargo recycling coordinator delivers programming themed toward the concept that recycling reduces environmental impact and promotes water quality.

Recycling Education

Pollutants and Best Management Practices

Fargo has identified pollutants and specifically lists them in Chapter 37 (Stormwater Ordinance). The ordinance lists obvious water degrading agents or practices but, it also implies that any action or process that diminishes water quality is a violation. Stopping or reducing negative discharge is the goal of not only the regulation, it is the essence of the entire stormwater program.

Knowing or identifying a pollutant is the first important aspect of our stormwater program. The second most important item is simply stopping or reducing the effect of the pollutant before it reaches a storm sewer inlet and eventually the river. This stopping or reducing (whatever it might be) is called a Best Management Practice or BMP. It could be a mat or fiber roll between the street and a stripped construction site or stopping watering before any sediment/dirt from a flowerbed is carried into the street gutter.

Solid Waste Public Education 2022

March

- Presented to 2nd and 3rd graders in collaboration with the Environmental Club at North High on Reduce, Reuse and Recycle – 175 students

April

- Presented to 2nd and 3rd graders on Reduce, Reuse and Recycle to celebrate Earth Day and also planted flowers with each class to take home (175 students).

- Earth Day Press Conference with Minnkota Recycling.

May

- Postcards sent to all residents participating in the ALL-in-ONE recycling program as a reminder what is acceptable in the bin in regard to the contamination we are seeing as of late

- Letters sent to 722 Landfill customer in regard to Landfill customer expectations in the fact that we do not accept loads mixed with scrap metal and or cardboard, those materials need to be kept separate and recycled on their own

June

- Lions Club presentation.

July

- Implemented a new agreement that must be signed and returned by anyone who wishes to order a roll off container

- The agreement clearly states what is accepted in the container and what is not allowed

August

- Continued education efforts to customers using the Residential Transfer Station at the City of Fargo Landfill

September

- Presented on the importance of recycling and keeping the Red River clean at the Water Festival in Moorhead, MN – 200 students (2500 students total attended the festival and various educational booths)

October

- Booth at Careers on Wheels – Oak Grove High School (350 students).

November

- Produced an educational recycling video and gave 5 local interviews.

December

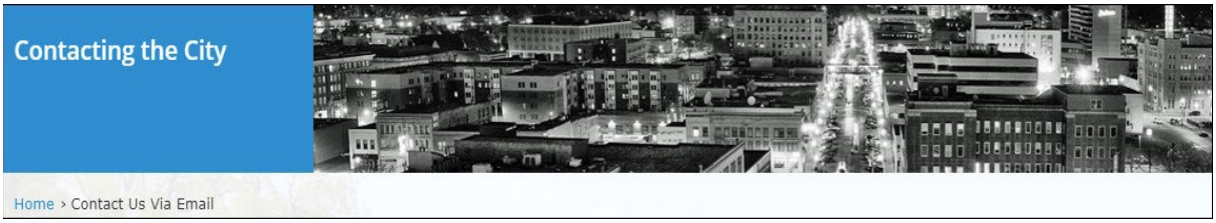
- Recycling education campaign began with AE2S and WDAY for 2023
- Annual recycling calendars sent to residents

Activities and Methods Used to Deliver our Program

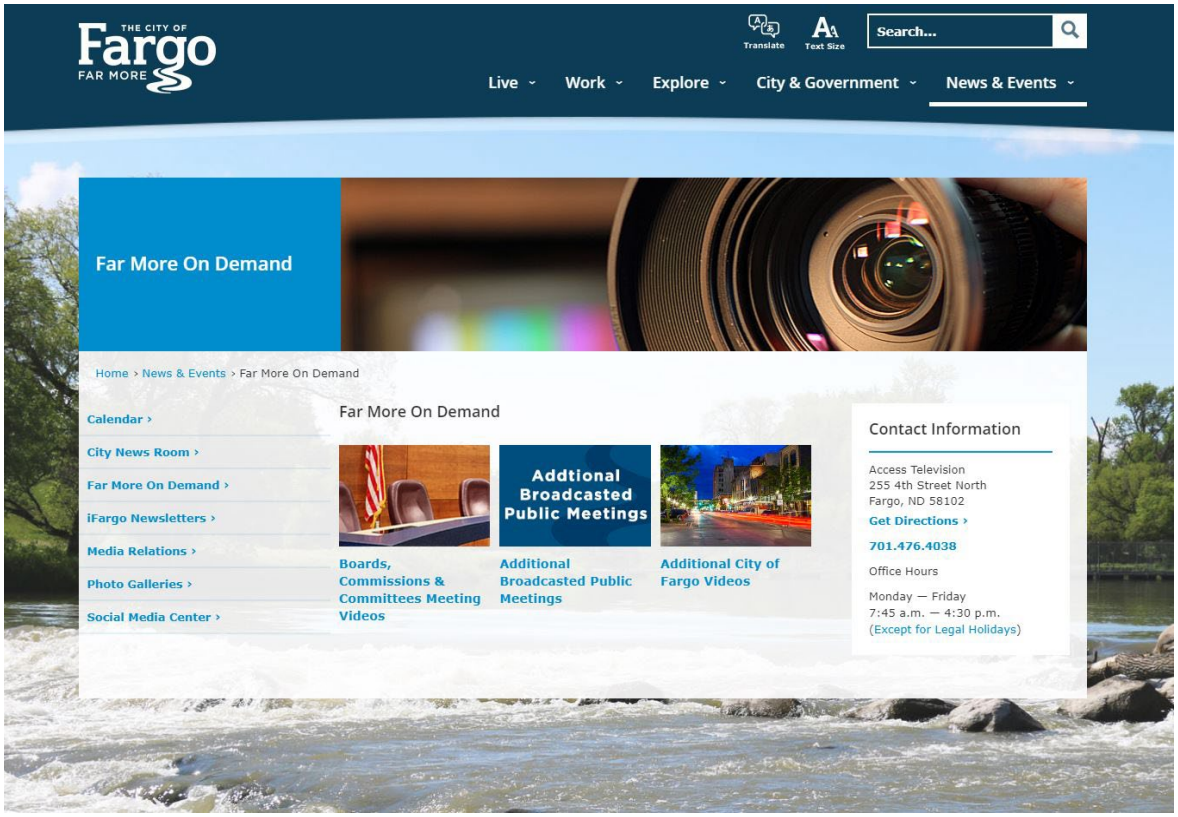
Mass Marketing

Digital Media

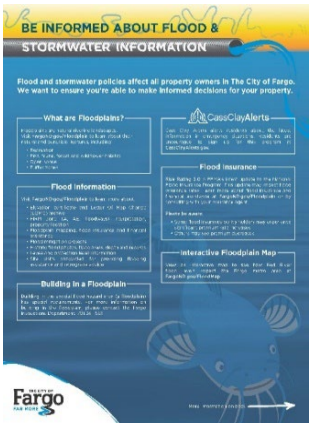
- Website www.FargoND.gov (Far More On Demand)
- Twitter
- Facebook

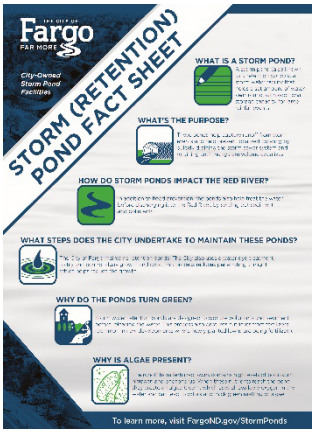


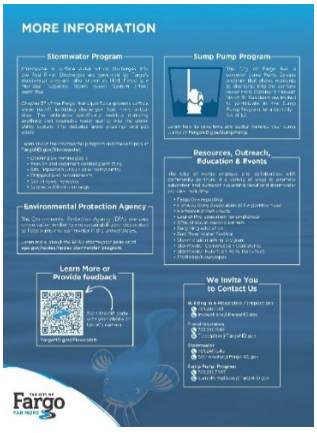
Far More On Demand



Direct Mail & Factsheets







BE INFORMED ABOUT FLOOD & STORMWATER INFORMATION

Flood and stormwater policies affect all property owners in The City of Fargo. We want to ensure you're able to make informed decisions for your property.

What are Floodplains?

Floodplains are natural riverine landscapes. Visit **FargoND.gov/Floodplain** to learn about their natural and beneficial features, including:

- Recreation
- Fish, fauna, forest and wildflower habitat
- Open space
- Buffer zones

Flood Information

Visit **FargoND.gov/Floodplain** to learn more about:

- Elevation certificate and Letter Of Map Change (LOMC) archive
- FIRM zone (A, AE, floodways) interpretation, property location
- Floodplain mapping, flood insurance and financial assistance
- Flood mitigation projects
- Historic flood photos, flood areas, depth and records
- Levee and protection level information
- Site visits conducted for providing flooding assistance and retrograde advice

Building in a Floodplain

Building in the special flood hazard area (a floodplain) has special requirements. For more information on building in the floodplain, please contact the Fargo Inspections Department. 701.241.1561

CassClayAlerts

Cass Clay Alerts alerts residents about the latest information in emergency situations. Residents are encouraged to sign up for this program at **CassClayAlerts.gov.**

Flood Insurance

Risk Rating 2.0 is FEMA's latest update to the National Flood Insurance Program. This update may impact flood insurance rates. Learn more about flood insurance and financial assistance at **FargoND.gov/Floodplain** or by consulting with your insurance agent.

Please be aware:

- Some flood insurance policy holders may experience significant premium rate increases
- Others may see premium decreases

Interactive Floodplain Map

View an interactive map to see how Red River flood levels impact the Fargo metro area at **FargoND.gov/FloodMap**.

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More information on back →

MORE INFORMATION

Stormwater Program

Stormwater is surface water which discharges into the Red River. Discharges are governed by Fargo's stormwater program, also known as MS4. Fargo is a Municipal Separate Storm Sewer System (MS4) permittee.

Chapter 37 of the Fargo Municipal Code governs surface water runoff, including discharges from construction sites. The ordinance specifically restricts dumping anything that degrades water quality into the storm utility system. This includes grass clippings and pet waste.

Learn about the stormwater program and these topics at **FargoND.gov/Stormwater.**

- Draining swimming pools
- Erosion and sediment control permitting
- Site inspection (inquiries or complaints)
- Stripped land requirements
- Storm sewer systems
- Suspected illicit discharge

Environmental Protection Agency

The Environmental Protection Agency (EPA) oversees conservation, resiliency and sustainability policies related to floodplains and stormwater in the United States.

Learn more about the EPA's stormwater policies at **epa.gov/npdes/npdes-stormwater-program.**

Sump Pump Program

The City of Fargo has a seasonal Sump Pump Bypass program that allows residents to discharge into the sanitary sewer from October 1 through March 31. Residents are invited to participate in the Sump Pump Program for a monthly fee of $3.

Learn how to save time and better manage your sump pump at **FargoND.gov/SumpPump.**

Resources, Outreach, Education & Events

The City of Fargo engages and collaborates with community partners in a variety of ways to promote education and outreach regarding flood and stormwater policies, including:

- FargoOne reporting
- Homebuilders Association of Fargo-Moorhead
- Homeowner fact sheets
- LaunchPad education for employees
- Official social media channels
- Recycling education
- Red River Water Festival
- Storm drain marking program
- Stormwater Construction Conference
- Stormwater Retention Pond fact sheet
- TV/Radio/Newspaper

Learn More or Provide feedback

Scan the QR code with your phone or tablet's camera

FargoND.gov/Floodplain

We Invite You to Contact Us

Building in a Floodplain / Inspections
701.241.1561
Inspections@FargoND.gov

Flood Insurance
701.241.1545
Floodplain@FargoND.gov

Stormwater
701.241.1545
Stormwater@FargoND.gov

Sump Pump Program
701.241.7867
SumpPumpDept@FargoND.gov

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City-Owned Storm Pond Facilities

STORM (RETENTION) POND FACT SHEET

WHAT IS A STORM POND?

A storm pond (also known as a retention pond) is a storm water facility that holds a set amount of water year-round, with additional storage capacity for large rainfall events.

WHAT'S THE PURPOSE?

These ponds help capture runoff from storm events and help prevent localized flooding by quickly draining the storm sewer system and retaining until the system volume equalizes.

HOW DO STORM PONDS IMPACT THE RED RIVER?

In addition to flood prevention, the ponds also help treat the water before discharging it to the Red River, by settling out sediment and pollutants.

WHAT STEPS DOES THE CITY UNDERTAKE TO MAINTAIN THESE PONDS?

The City of Fargo maintains retention ponds. The City also uses a water dye treatment, to try and control algae growth and odor. This process reduces penetrating sunlight which helps reduce the growth.

WHY DO THE PONDS TURN GREEN?

Storm water retention ponds are designed to capture pollutants and sediment before releasing the water. This process also captures nutrients from fertilizers (common in new developments where newly planted lawns are being fertilized).

WHY IS ALGAE PRESENT?

The runoff from fertilized lawns contains high levels of potassium, nitrogen and phosphorus. When these nutrients reach the pond they create an algae bloom, which uses all available oxygen in the water and can lead to odors and thick green matting of algae.

To learn more, visit FargoND.gov/StormPonds

STORM (RETENTION) POND FACT SHEET

THE CITY OF Fargo FAR MORE

City-Owned Storm Pond Facilities

CAN RESIDENTS SWIM, BOAT OR ICE SKATE ON CITY PONDS?

No, for your safety The City does not allow these type of activities.

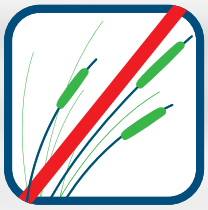
CAN I BUILD/CONSTRUCT SOMETHING AT THE EDGE OF THE POND?

No. Typically all ponds have water storage easements around them, this ensures the pond can hold all the water needed to reduce possible neighborhood flooding impacts. This is referred to the high water mark and is typically several feet higher than the normal pool level.

CAN I USE THE STORM WATER POND WATER FOR IRRIGATION?

No, The City does not allow residents to use the water for irrigation pond levels are designed for performance and typically controlled by an outlet structure.

CAN I REMOVE VEGETATION AROUND THE POND EDGE?



No. Not only do the plants improve water quality by filtering pollutants, they also provide critical slope protection by reducing the impacts from wave action erosion.

WHAT IS THE WATER QUALITY OF A STORM POND?

Property owners should be aware the water collected in these ponds can contain harmful pollutants carried by runoff from driveways, streets and lawns.

To learn more, visit FargoND.gov/StormPonds

LAWN CARE FIRMS FACT SHEET

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Lawn Maintenance & Stormwater Pollution Prevention

Today's modern lawn maintenance business can easily meet stormwater regulations with minor changes in practice. Most firms are not even aware they are contributing to water quality degradation or reducing system capacity.

Our storm sewer utility is designed to carry rain water, snow melt, etc., anything else making its way into the system either degrades water quality or impedes flow.

Water quality is affected by yard wastes due to load levels of the chemicals and the biomass itself. Buildup of the material reduces pipe capacity and increases maintenance costs.

How Can Your Firm Help?

- Follow chemical instructions.
- Discharge clippings back onto lawn rather than into the street if not bagging.
- Bring your clippings to the composite site at 44th Street North and 7th Avenue North (open 24/7).
- Do not paddle boulevard debris into street.
- Pick up maintenance debris that gets into the gutter.
- Do not overload trailers to the point yard waste falls into road-ways during transport.

Did You Know?

- Fargo's storm sewer system discharges untreated, directly into the river.
- Grass clippings blown onto streets build up in the storm system slowing water discharge.
- Help minimize maintenance costs low. Only send water down the storm drain.

NOTE
Follow the manufacturer's mixing and application instructions when using lawn chemicals. It matters!

Neighborhood Yard Waste Dumpsters

Please do not use the neighborhood yard waste dumpsters.

You can bring clippings to the free compost site 44th Street North and 7th Avenue North (open 24/7).

Commercial use quickly overloads dumpster capacity and frustrates residents. This also leads to "illegal" dumping of yard waste in areas where it should not be dumped.

PLEASE DO YOUR PART.

STORMWATER POLLUTION

A GUIDE FOR SNOW REMOVAL

Tracking

Snow removed from lots contains chemicals, sediment and trash. When the snow piles melt in the spring, these pollutants can be carried directly into the storm sewer

Streets

- Streets need to be kept clear of snow at all times. Any snow that falls into the street during clearing or hauling operations needs to be cleared immediately. Never push snow into the streets during snow removal operations.
- Spilling snow onto the street or into ponds and ditches when pushing or hauling snow can result in a citation from The Fargo Police Department. The citation will result in a Summons to Appear in Municipal Court and a minimum $100 fine upon conviction.
- Snow and ice on streets from snow removal and hauling operations is a hazard and must be cleaned promptly.

If you have any questions, email The City of Fargo at **StormWater@FargoND.gov**

KNOW YOUR SNOW LOCATIONS

Ponds, Ditches and Drains

- Retention ponds, road ditches and legal drains are a part of the storm sewer system and are NOT to be used to store snow moved from any lot; public or private.
- Snow cannot be pushed into ponds and ditches. By spring, the snow moved off lots contains months worth of sediment and refuse that needs to stay out of ponds and ditches.
- Pushing snow into a legal drain is a violation of City ordinance as well as state and federal law.

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CLEAN UP AFTER YOUR DOG'S PET WASTE

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Is This Really A Problem?

It might not seem like a stormwater problem, but animal waste is one of the many seemingly small sources of pollution that can add up to big problems for water quality and even human health.

Animal waste contains two main types of pollutions that harm local waters: nutrients and pathogens. When this waste ends up in water bodies, it decomposes, releasing nutrients that cause excessive growth of algae and weeds. This makes the water murky, green, smelly and even unusable for swimming, boating or fishing. The pathogens, disease-causing bacteria and viruses, can also make local waters unswimable and unfishable and have caused illness in humans.

Please Be Prepared

- Picking up after your pet is easy, if you're prepared. Simply carry a plastic bag with you on each walk with your dog and you'll have the equipment to remove your dog's waste. Then throw it in the nearest trash can and you're done! There are even compact, refillable bag dispensers that you can attach right to your dog's leash.
- Many park and recreation areas have courtesy bags and disposal boxes, designed specifically for dog waste.
- Avoid letting your dog do their business within 200 feet of a water body.
- And, of course, never throw dog waste into a storm drain.

PLEASE DO YOUR PART.

PICK UP AFTER YOUR PET AT HOME

Pet waste doesn't just decompose. It adds harmful bacteria and nutrients to local waters, when it's not disposed properly.

Pet Waste at Home

- For dogs, cats and other pets that are meat eaters, it's important to dispose of the waste in the garbage. Wastes from meat eaters should not be placed in a compost pile because of parasites, bacteria and viruses are not readily destroyed during the composting process and can be passed onto humans.
- While it's common courtesy to pick up after your dog when you go on walks, it's also a good idea to pick up after him at home. Some diseases can be transmitted from pet waste to humans through contact with soil. Children playing outside and adults who garden are most at risk.

Don't Feed the Fowl

Unfortunately, an activity many of us enjoyed as children actually has damaging impacts not only for the waterfowl themselves but also for local waters. While ducks, geese and swans love to eat the bread we offer them, it lacks the nutrition of their natural diet and can cause long-term health problems.

Feeding waterfowl also causes them to concentrate in higher numbers than they would if they had to rely solely on natural food suppliers and that results in large quantities of waste for local waters.

If geese visit your property, you can discourage them by letting a natural buffer grow.

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Core Partners

River Keepers delivers water ecology education, and provides volunteer opportunities for the general public. Their mission is to advocate sustainable use of the Red River of the North, primarily within the Fargo-Moorhead area promoting a renewed vision. River Keepers is dedicated to educating our community by increasing local watershed knowledge through active engagement.

River Keepers Activities

Activities include the annual Red River Water Festival, backpack program, geocache, interpretive signs, storm drain marking program and river friendly house and yard management. Fargo SSU staff participates with River Keepers in various activities annually.

The Red River Water Festival sponsored by River Keepers is a very popular annual ecology program for area fourth grade students. This learning event brings students to the river, where they learn and participate in water quality concepts. SSU staff participates with teaching and providing funding.

WHAT IS A STORM DRAIN?

Storm drains are the grated openings in the street that collect water from rain and melting snow to minimize street flooding.

As stormwater flows along streets, it collects trash, leaves, grass clippings, pet waste, car fuels and other pollutants into storm drains.

Pesticides, paints, antifreeze, and other used motor oil can end up in the storm drains when people dispose of them improperly. This is an illicit discharge and is against city ordinances.

WHAT IS THE PROBLEM?

Have you ever wondered where water goes after it 'disappears' into a storm drain? Stormwater in Fargo-Moorhead is not treated at a wastewater plant, but is discharged directly into the Red River or Sheyenne River through outfall pipes. Runoff carries contaminant and debris picked up along the way, polluting our surface and groundwater, which are often drinking water sources.

WHAT CAN YOU DO?

- Volunteer to mark storm drains to teach others about stormwater
- Prevent pollution by keeping contaminants out of storm drains
- Follow the No Dumping Drains to River message and do your part to help protect our water
- Sign up your volunteer group to mark storm drains by contacting River Keepers

CONTACT US

River Keepers
kimberly@riverkeepers.org
701.356.8915
riverkeepers.org
1120 28th Ave. N., Ste. B
Fargo, ND 58102

ADDITIONAL INFORMATION

riverkeepers.org
FargoND.gov
cityofmoorhead.com
westfargond.gov

STORM DRAIN MARKING PROGRAM

A volunteer program to protect the Red River by linking human actions to pollution problems.

THE CITY OF Fargo
FAR MORE

MOORHEAD
MINNESOTA

City of WEST FARGO

Learn · Sustain · Enjoy
RIVER KEEPERS

PREPARATION

1. Discuss the storm drain marking program with your youth group, school class, civic organization, family, neighborhood group or friends. It is recommended that participants be at least 10 years old.

2. Select a date for marking. The pavement must be dry and the weather must be above 50 degrees.

3. Choose a time of day and length of time available to do the project. Two hours is the recommended length.

4. Select a neighborhood to mark and a location to meet.

5. Figure out the number of participants.

6. Recruit supervisors. One supervisor is recommended for every 4-8 youth volunteers, depending on the age.

7. Plan an alternative date in case of rain.

8. Contact River Keepers to set up the project, which includes supplies and training.

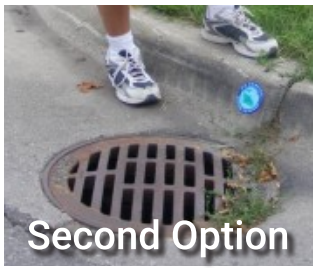
DAY OF PROJECT

Put on safety vests.

Break into groups - two people to mark the curb, two people to distribute door hangers.

CURB MARKING TEAM

1. Decide where to put the marker.
   - Surface must be flat, dry, and make contact with the whole marker. The preferred placement is on top of the curb.



   - The second option is on the face of the curb.
   - If the curb is not possible, the street right next to the curb and storm drain is the last option.

2. Sweep the area where the marker will be placed so it is free of any loose debris.

3. Peel backing paper off one side of the adhesive disk.

4. Place storm drain marker evenly on top of the adhesive disk.

5. Remove backing paper on other side of the adhesive disk.

6. Apply to cleaned area. It is important that the entire edge of the marker is sealed to the curb or street.

7. Step or place pressure on the storm drain marker to make sure the adhesive sticks.

DOOR HANGER TEAM

- **Walk on sidewalks, stay off of the grass.**
- **Do NOT put door hangers in mailboxes.**
- **Place door hanger on the door that looks most used. Do NOT open the door.**
- **Do NOT leave a door hanger if it will blow away.**

FOLLOW-UP

- Indicate streets marked on maps provided.
- Document how many volunteers participated and how many hours were volunteered.
- Return maps and extra storm drain marking supplies.
- Congratulate yourselves...you deserve it!

RiverKeepersFM
fmriverkeepers
RiverKeepersofFM

riverkeepers.org
Christine@riverkeepers.org
701.235.2895

OUR MISSION:
"Advocating for safe and sustainable use of the Red River of the North."

RIVER KEEPERS

Red River Water Festival

What is a water festival?
It's fun and educational and free! A youth water festival is an educational, fun-filled learning opportunity which increases a student's awareness and knowledge of water.


Students use a transparency tube to learn about water quality.

The objective of the festival is to enable students to learn how to gather information needed to make informed decisions about water use and protection, increasing their awareness and appreciation of water resources in our area.

Classes participate in an opening presentation and several 20 minute hands-on presentations. Presentations include information and interactive activities on a variety of topics such as watersheds, non-point source pollution, water properties, and water quality. Classes have an option to spend an extra 1/2 day at the festival to participate in water activities outside near the Red River.

The festival is targeted to 4th grade students in the Buffalo-Red Watershed District and the Southeast Cass Water Resource District.

There is a resource area with information about water for teachers to take back to the classroom. Each student receives a bag of water related goodies.


Students attend an opening session.

When and where is the water festival?
The Red River Water Festival is usually held at the end of September. There is a morning session from 9:00 - 11:30 a.m. and an afternoon session from 11:45 - 2:15 p.m. The festival is held at the Hjemkomst Center, 202 1st Avenue North in Moorhead.

Sponsorships or inkind donations are needed for:
- activity supplies
- student and teacher resources
- printing
- volunteer lunch
- bus transportation
- coordination

Awards:
- Minnesota Environmental Initiative Awards Finalist in May 2006.
- Outstanding Program Award from the Red River Basin Commission in January 2003.

Current partners:
- ND Project WET
- AE2S
- International Water Institute
- River Watch
- ND Water Education Association
- City of Fargo
- City of Moorhead
- U.S. Fish & Wildlife Service
- Cass Soil Conservation District
- Fargo Park District
- Fargo Public School District
- NDSU
- 4-H
- Concordia College
- Barnesville High School
- Buffalo-Red River Watershed District
- Southeast Cass Water Resource District
- And others


Students learn about water treatment by making a mini-water plant.

For more information, contact:
River Keepers
325 7th St. S., Ste. 201 Fargo, ND 58103
701-235-2895
info@riverkeepers.org
www.riverkeepers.org

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RIVER KEEPERS

Thank You for Volunteering!

Thank you for *making a mark* by volunteering at the 22nd Annual Red River Water Festival!

After a couple year hiatus, we were finally able to host an in-person water festival with more students than ever before. Over 2,300 3rd and 4th grade area students participated in fun activities and learned all about water. Our incredible team of over 100 volunteers made this possible.

It takes a lot to pull this event off, whether it's the expected or the unexpected. You may have helped us quickly move kids indoors due to changing weather or changed roles on the fly, we truly can't pull this off without you. Your passion, creativity, skill, and the time you are willing to give is priceless to us and it's why we keep inviting you back year after year. Thank you again for making this event what it is. This event is much more than just a field trip for students. It's a place for them to learn the importance of the Red River, our watershed, and instill a lifelong commitment and responsibility to our natural resources.

We hope to see you again next year!

Thanks for teaching a new activity!

Sincerely,

Christine

Christine Holland
Executive Director

Kim Radebaugh

Kim Radebaugh
Project Coordinator

2022

Committees

- Conservation
- Forestry Advisory

Feedback

Stormwater@FargoND.gov

Community Feedback

The opportunity to provide feedback on stormwater topics is communicated in various activities and projects. Community feedback is managed citywide on a unified basis through a number of portals including office visits, mail, telephone, website, email, Engage Fargo and FargoOne**.**

Performance Measures

How do we evaluate the effectiveness of our MCM 1 & 2 programming since quantification is so difficult to apply. Some of the methods are listed below, others must be intrinsically interpreted by staff. An increase of incident reports by the public in 2022 is directly related to the increase of awareness of these degrading pollutants.

- Counting (attendance, address mailings, contact log, complaint log, frequency of Learning opportunities, etc.)
- Feedback from electronic reporting portals (email, FargoOne, etc.)
- Inter-department communication (increased - trash, sweeping, pipe cleaning, etc.)
- 2022 awareness incident reports

Program Adjustments

Annually (usually in the first two months of the year), all MCM programming is analyzed. Constructive input from the program's targeted sectors is evaluated by the Fargo Storm Sewer Utility staff. Changes (additions or deletions) are incorporated and carried out.

Current program is deemed adequate and no changes are recommended for 2023.
MCM 1 & 2 contributions will be maintained at the existing level.

MCM 3

Stormwater Education Program

Illicit Discharge Detection and Elimination Program (IDDE)

THE CITY OF Fargo

FAR MORE

MCM 3 – Illicit Discharge Detection and Elimination (IDDE) Program

Degrading water quality (Illicit Discharge) by dumping substances or bypassing the sanitary system is illegal. The Red and Sheyenne Rivers are the source of the City's water supply, so protection of our drinking water is a critical mission. In response to that charge, the City has created a detection and elimination program commonly known in the stormwater world as the IDDE Program.

Fargo's IDDE Program uses the same design as many other MS4 entities. Public education/ involvement/awareness along with training municipal staff are key components of the program. Specifically, the IDDE Program's focus is on the discovery, containment and elimination (mitigation) of water degrading practices. There are a number of rules and procedures available in the city to address non-conforming discharges.

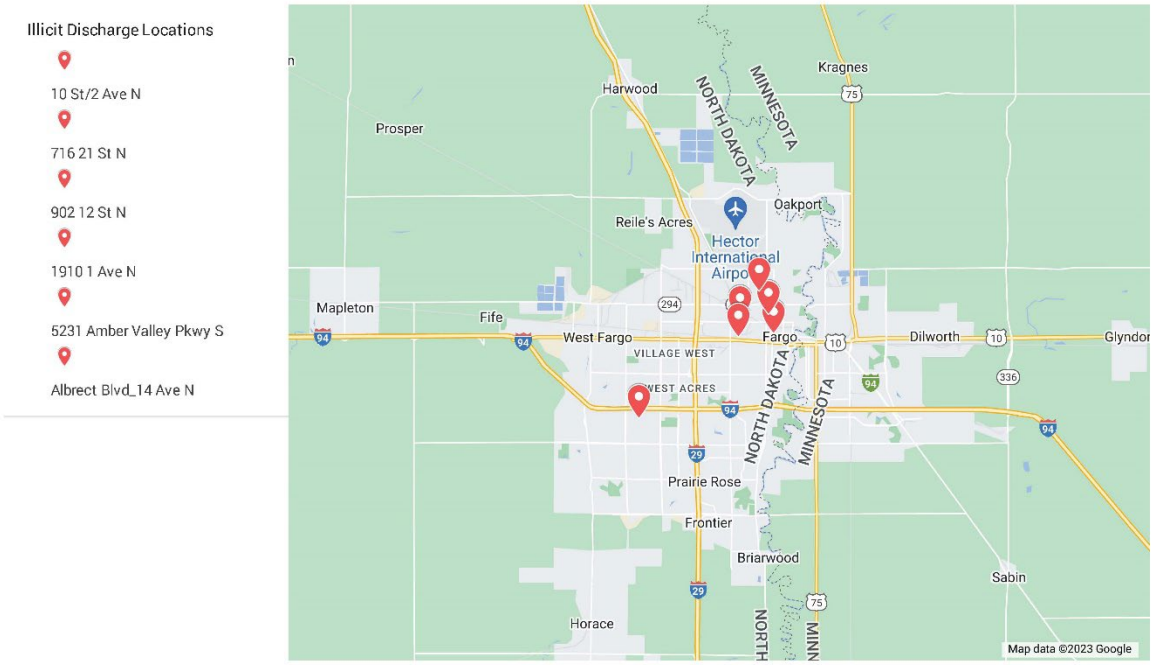
In addition to State and Federal regulation, the Stormwater Ordinance defines non-conforming and allowable discharge that can enter our storm sewer utility. Construction and land disturbing activities are addressed as. Dumping any adverse substance in any form is a violation. Fargo's Stormwater Management Program under supervision of the Fargo City Engineer administers enforcement along with the full support of other city departments.

IDDE Spill Response

Illegal discharge reports

Illegal discharge reports communicated by other staff or the public follow the standard operating procedure format. Administration is by the department responsible for a particular operational segment. For example, reports involving a restaurant dumping grease into the sewer or on the ground is referred to Fargo Cass Public Health – food inspection division. Suspect illegal non-functioning storm sewer connection or infiltration routes to public works for remedy or testing. All hazardous material exposure incidents are directed to the Fargo Fire Department's HAZMAT Team. Each of these departments would take the lead command of operations and the Storm Sewer Utility Department reverts to a support role.

Illicit Discharge & Elimination Map



Routine Municipal Operations

Non-conforming material is an everyday maintenance issue for Fargo's Public Works (FPW) operations group. Operational staff is the field staff, defined by job description directed toward maintenance tasks of the city. Department staff vary from garbage pickup to snowplow route operators who are out patrolling the city constantly. All staff are trained to report operational inconsistencies including illicit discharge due to spill or other circumstance.

Education, outreach and involvement

Education and outreach on this topic is conducted in concert with MCM 1 & 2. In all contact situations the perpetrator is appropriately educated concerning mitigation resolution along with any penalties assessed. Factsheets or violations are also used to educate the public and business operations on illegal dumping and other storm water conflict situations. Directed informational topic pieces like a fact sheet or letter is customarily sent to a geographic or similar group of people if a primary perpetrator cannot be identified. City staff is also trained for IDDE specific exposure in conjunction with MCM 6 (municipal maintenance operations).

Fargo IDDE Program Components

- Chapter 37 (Stormwater Ordinance available online www.FargoND.gov/auditors)
- Illicit discharge detection & elimination standard operating procedure
- Illicit discharge detection & elimination Work Order
- Educational Support Material
- Notice of Violation
- Drainage Complaint Log

Quantification, Appropriateness and Program Recommendations

There are multiple incidents of illicit discharges reported annually to various departments. Each department mounted a suitable response and if appropriate performed necessary mitigation action to reduce future replication. Documentation of such incidents is perpetually maintained in department records. This system is highly functional, with no operational changes recommended.

Illicit Discharge Detection and Elimination (IDDE)

Standard Operating Procedure for IDDE

Staff assess the site situation and determines the best course of action. Staff's goal is to respond to a report of an illicit discharge in a timely manner, aid in its termination and enable remediation.

Field staff is trained how to spot an illicit discharge and report it for further investigation.

Site Investigation

Assess the situation –

- Visual inspection of the site.
  - If life or property is at immediate risk call 911
  - If it can be done safely, stop the source of the spill
  - Take pictures/notes: location, size, colors, odors, type of material, etc.
  - Make contact with property owner/manager and direct to mitigate.
  - Contact appropriate department that oversees segment

Contacts

- Fargo Fire Department 911 (non-emergency 241-1540)
- Environmental Health 476-6729
- Street Department 241-1453
- Waste Water Treatment Plant 241-1445

Enforcement

- Issue Notice of Violation or Administrative Order to the violating party
- City also may charge owner for contractor/department site clean -up
- Non-compliance or post mitigation effort may be referred to City Prosecutor

Report Log

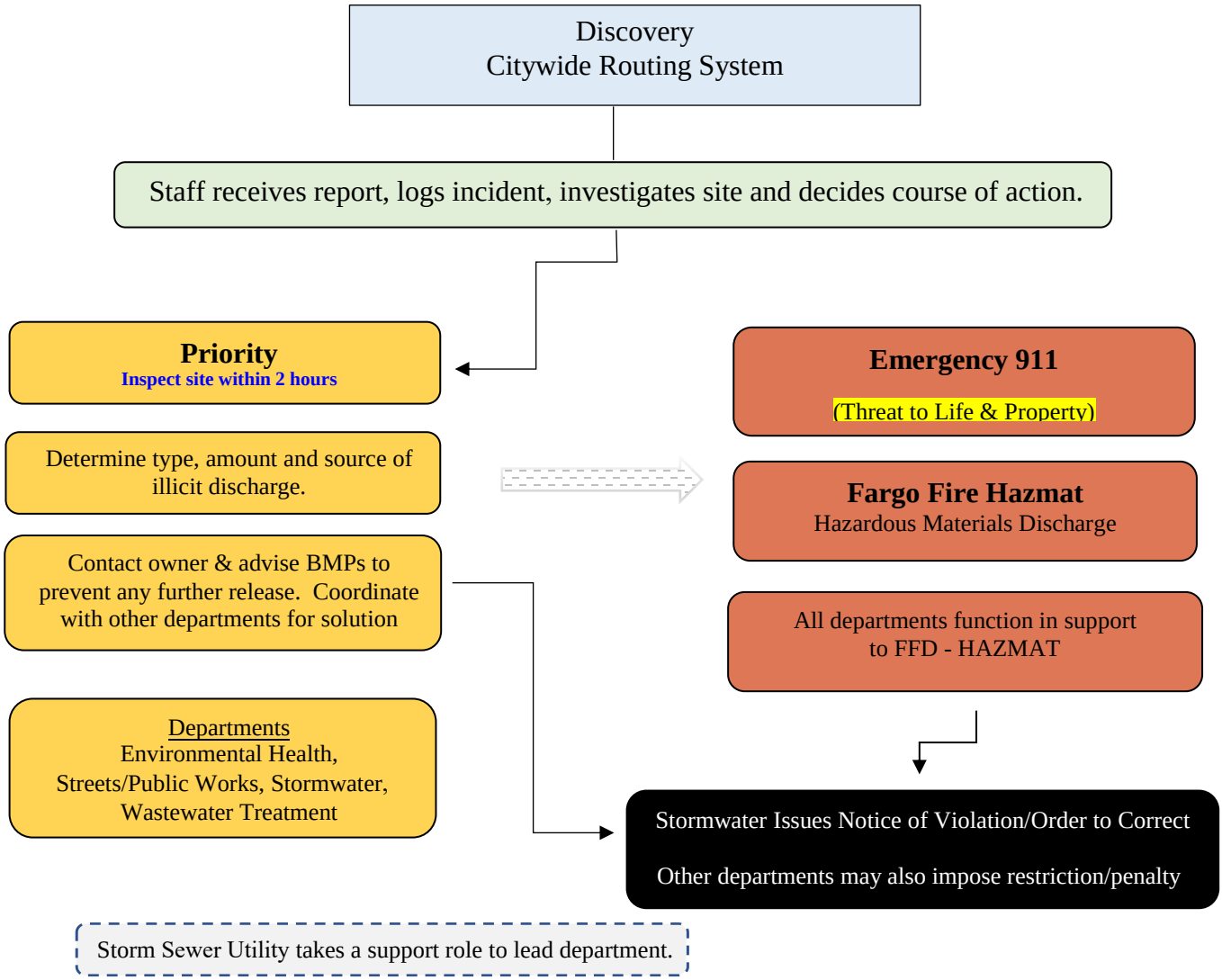
Keep a log of illicit discharges, response and mitigation.

Post remediation inspection

Perform site inspection to ensure mediation/mitigation was conducted.

Illicit Discharge Detection and Elimination (IDDE)

Standard Operating Procedure
(NDR04, Part IV.F.3b)
Typical procedures but others may apply.



Site re-inspection conducted post response.

- If no or insufficient mitigation is accomplished, administrative order to correct is issued.
- Municipal Court

Engineering Department
225 4th Street North
Fargo, ND 58102
Phone: 701.241.1545 | Fax: 701.241.8101
Email feng@FargoND.gov
www.FargoND.gov

MS4 Underground Tank Storage Policy

General Description

The classification, Underground Storage Tank (UST), also UST Systems is divided into two categories Regulated and Unregulated. USTs are normally associated with fueling (gas) stations, petroleum distributors or commercial/industrial operations and some residential sites. Locally the City of Fargo has three departments affiliated with USTs, fire, health and storm sewer. See description of departmental interaction below.

Regulated USTs are controlled by the State of North Dakota's Environmental Quality Division under their UST Program. NDCC Chapter 33-24-08 Technical standards and corrective actions requirements for owners and operators of underground storage tanks.

Unregulated UST remain under local observation with FFD having permit and location mapping authority, FCPH-EH assists in tank removal operations and health risk discoveries. The Storm Sewer Utility functions in a support role whenever a potential for release into the storm utility system.

Fargo Fire Department

- Permits installation, piping & inspects sites.
- Maintains UST database (location map)

Fargo Cass Public Health's Environmental Division

- Removal of buried tanks
- Records & forwards UST health risks to ND

Storm Sewer Utility (MS4)

- Cross-contamination into STS (with FFD, EH & PW)
- Discharge/Spills into STS
- Works in support of FFD & EH
- Most instances of release trigger the Illicit Discharge Detection and Elimination Program (IDDE) protocol (HazMat)

THE CITY OF Fargo FAR MORE

Engineering Department
225 4th Street North
Fargo, ND 58102

Phone 701.241.1545
Fax 701.241.8101
stormwater@FargoND.gov

Notice of Stormwater Violation

Owner/Operator

Construction Site Address

Contact Fax #

Date/Time

Permit #

The Owner/Operator of this site shall correct the site's deficiencies listed below within **48 HOURS FROM DATE POSTED**

A re-inspection for site compliance will occur 48 hours after violation issuance[1].

CONFIRM RECEIPT IMMEDIATELY AT: stormwater@FargoND.gov or FAX: 701.241.8101

Site Deficiency Violations

- ☐ BMP's Not Placed or Maintained
- ☐ Grass Buffer Strip Compromised
- ☐ Illegal Temporary Entrance
- ☐ Illegal Discharge[2]
- ☐ Inlet Protection
- ☐ No ESC Permit
- ☐ Street Tracking[3]
- ☐ Other:

Corrective Action Required:

Additional Enforcement Action

1. If non-conforming conditions exist upon re-inspection, the owner, operator, or permit holder shall be subject to a re-inspection fee of $60/hr ($30 minimum). **Failure to correct may also result in prosecution under the Fargo Municipal Code (with penalty not to exceed $500.00).**
2. A live, illegal discharge is grounds for the immediate issuance of a ***Stop Work Order***.
3. Tracking onto City streets can, at any time, result in a citation and ***Summons to Appear*** under Section 11-0901 of the Fargo Municipal Code.

Re-Inspection Fee

Date & Fee

Date & Fee

Date Referred to City Attorney

Date Referred to State of ND

TOTAL

Owner/Operator: Sign & FAX to 701.241.8101

Issued By: Kevin Morlan (701.730.8655)

Print Reset Save As

2022 Log of Walk-in the Office, Site Visit,Telephone and Email FIRM Information provided by Fargo CFM Employees

Type
E - Email = written text communication, English Language (EL)
O - Office = in-person, told verbal communication (EL)
P - Phone = told verbal communication, (EL)
S - Site visit
Z - Stormwater

MI1 - Basic FIRM Information
MI2 - Additional FIRM Information
MI3 - Problems not show on FIRM
MI4 - Flood Depth Data
MI5 - Speical Flood Related Hazard
MI6 - Historical Flood Information
MI7 - Natural Floodplain Functions

A requirement of CRS Activity 320 & 360

Date	Type	Address	Contact Name	Panel	Zone/BFE	Depth of BFE	Information Given	Past flood Repetitive Loss Area	Gave Flood Insuance Info	Action / Findings / Outcome / Recommendations
1/3/2022	P	2511 Amber Valley Pkwy S	Carrie	778	X - N/A	N/A	500-year HUD info	N/A	Y	find BFE, bad FEMA panels, refer to levee owner
1/6/2022	P	2855 Edgewood DR S	owner	592	X - N/A	N/A	MI 1-4	N/A	Y	
1/20/2022	P	4263 Ponderosa PL S	realtor	786	AE - 905.7 LOMR-F	N/A	MI 1-4 & 7	N/A	Y	
3/21/2022	Z	6616 58 Ave S	Joe Somebody	767	X - N/A	N/A	Fargo One	N/A	N/A	
3/28/2022	P	4249 39 AVE S	Sandy-owner	778	X - N/A	N/A	MI1-4	N/A	Y	Current flood insurance renewed at +$300 (nearly doubled) considering dropping since it is optional.
4/18/2022	P	2402 35 AVE S	Vickie-owner	779	X - N/A	yard/905.6'	MI1-4	N/A	Y	Complaining about $ now >700
7/13/2022	P	3563 Lincoln St S	Diane - realtor	778	AE 905.7	0	MI 1-4	N/A	Y	Did not look at floodplain & insurance requirements before new owner purchased; told her how to get LOMA
8/11/2022	P	Deer Creek Subdivision	Bev Collins	767	X - N/A	N/A	MI 1-4	N/A	Y	Looking to buy in area, wondering about flood risk from county drain
12/1/2022	E	405 7 St S	David - owner	781	X - N/A	N/A	MI 1-4	N/A	Y	Help interpreting map

MCM 4

Construction Program

MCM 4 – Construction Site Program

The construction program's goal is to reduce pollutant discharge due to construction/development activity. Our program is administered principally by the Fargo Storm Sewer Utility Department (SSU) under the authority of the Fargo City Engineer and the Stormwater Ordinance. The Engineering Department contributes significantly to the program with site plan review for both public and private commercial development and has overall responsibility for public sector construction.

Below is a description of the program's basic functions and methods of operation. Located at the end of this section are support documentation examples, evaluation and future consideration.

ESC Permitting System

All new building sites and land disturbing activities that have a potential to discharge sediment off a site are automatically issued an **Erosion and Sediment Control Permit** (ESC Permit) (37.0301). This process now begins at the inspections department when applying for a building permit. The purpose of the permit is to provide site identification, point of contact information and a formal record. The official "tracking" system (LAMA) is maintained daily by SSU staff. This system has archive capability with a search-by address/document number function; it covers both commercial and residential construction sites.

ESC Permit

Commercial permitted sites must also undergo the engineering department's site plan review process which contains a stormwater review element.

Builders of one and two unit residential buildings are permitted but subscribe to the department's **Stormwater Guide** versus site plan submittal for commercial sites (37.0102). These construction sites are patrolled on a regular basis as determined by the stormwater inspector for site conforming conditions. Discrepancy observation can be resolved with personnel on site or through the notice of violation procedure. (See patrol & enforcement)

Site plan review (submittal) "*One and two unit residential buildings are exempt"*

A construction site plan is required for development under Chapter 37. The ESC Permit application requires operators of commercial sites to submit a site plan (SWPPP) with all related BMPs and water quality & retention addressed including type and location on the site. The site plan review requirement is part of the Land Development Code (LDC) and includes identification of permanent stormwater BMPs. Engineering evaluates all infrastructure connections and conflicting site conditions. Non-conforming scenarios are notated and the plans must be returned for correction. This site plan review ensures compliance with the LDC, stormwater requirements of the North Dakota Department of Environmental Quality NDPDES construction permit (NDR11-0000), MS4 discharge permits and the City of Fargo Stormwater Ordinance.

Additionally, SSU staff reviews plan sheets prior to issuance of an ESC Permit. This review concentrates on the plan's **temporary physical placement** of BMPs including:

- **Conforming inlet protection**
- **Dewatering**
- **Perimeter control**
- **Stockpile locations**
- **Tracking management (egress/ingress)**
- **Unique BMP proposals**
- **Concrete and similar washout treatments (grindings and mortar)**

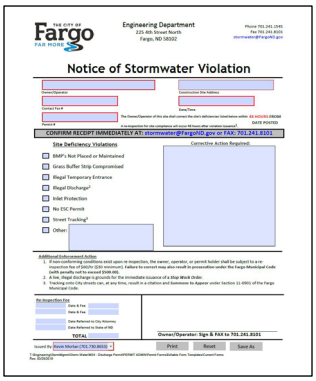
Commercial Compliance Inspection

Commercial sites undergo a SSU staff evaluation (on a percentage or complaint basis) once construction gets underway. Here the inspector compares the plan with the site condition and converses with the superintendent about any particular nuances associated with the site. The discussion also elaborates the need to document BMP site changes on the SWPPP.

Patrol and Enforcement

SSU staff uses the permit system for permit verification, developing compliance patrol routes and overall enforcement composition. Construction sites, patrolled on a rotating daily basis may be addressed via personal interaction with a site operator, phone call or issuance of a Notice of Violation (NOV)/Order to Correct. Infractions have a 48-hour correction period with the exception of a live discharge, which requires immediate response. Each site must conform to the criteria of the Stormwater Ordinance for construction site **condition/pollutants**: (refer to the statistical section of this MCM for annual and historical data).

- **BMPs**
- **ESC Permit**
- **Entrance**
- **Grass buffer**
- **Inlet protection**
- **Illegal Discharge (Illicit)**
- **Street tracking**
- **Other**


Fargo
Engineering Department
Notice of Stormwater Violation
CONFIRM RECEIPT IMMEDIATELY AT: stormwater@FargoND.gov or FAX: 701.241.8101
Site Deficiency Violations
Corrective Action Required:
BMP's Not Placed or Maintained
Grass Buffer Strip Compromised
Illegal Temporary Entrance
Illegal Discharge
Inlet Protection
No ESC Permit
Street Tracking
Other
TOTAL
Owner/Operator: Sign & FAX to 701.241.8101
Print
Reset
Save As

Citizen Contact, Complaints and Contributions Log

Public contact is logged at several interface portals including: Fargo One, City Email Accounts, Facebook and Twitter which are each directed to appropriate departments. The digital media has its own historical tracking element and SSU maintains records in the department database. Public input is evaluated and topics of merit are communicated back to the site operator via comment or official infraction notice.

Written Procedures

The SSU department has established written procedures for site inspections, issuance of Notice of Violation (enforcement), site plan review and response to public input. Please refer to the supporting documentation at the end of this segment.

Stabilization Requirements

The requirement for construction stabilization is established by definition in the Stormwater Ordinance. Examples of the stabilization requirement are cited below. Please refer to the actual ordinance for more information.

- "**Temporary protection**" means short-term methods employed to prevent erosion. Examples of such protection are straw, mulch, erosion control blankets, wood chips, and erosion netting. 37.10203.50

- "**Stabilize**" means the exposed ground surface has been covered by appropriate materials such as mulch, staked sod, riprap, wood fiber blanket, or other material that prevents erosion from occurring. Grass seeding alone is not stabilization. 37.0102.39

- "**Stabilized**" means the exposed ground surface after it has been covered by sod, erosion control blanket, riprap, pavement or other material that prevents erosion. Simply sowing grass seed is not considered stabilization. Ground surfaces may be temporarily or permanently stabilized (also see Final Stabilization).

- "**Erosion control**" means methods employed to prevent erosion. Examples include soil stabilization practices, horizontal slope grading, temporary or permanent cover, and construction phasing.

- "**Sediment control**" means the methods employed to prevent sediment from leaving the development site. Examples of sediment control practices include, but are not limited to silt fences, sediment traps, earth dikes, drainage swales, check dams, sub-surface drains, pipe slope drains, storm drain inlet protection and temporary or permanent sediment basins. 37.0102.37

- "**Final stabilization**" means that disturbing activities at the site have been completed and a uniform perennial vegetative cover with a density of 70 percent of the native cover for unimproved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed. 37.10203.40

CONSTRUCTION INDUSTRY EDUCATION AND INFORMATION

The City of Fargo Stormwater Program partners with Fargo-Moorhead Homebuilders Association to develop rules, policy guidance and training. The association is comprised of commercial/residential builders, material, service suppliers and related businesses (developers, realtors, etc.) SSU staff regularly contributes to the partnership with newsletter articles, presentations or submissions of new technology.

SSU also communicates directly with contractors via digital **email** links. Reminders, requirements and changes are communicated to an ever-changing roster of contractors. Email lists are compiled from the permit contact database to ensure effective information dissemination.

Fact sheets are used to convey stormwater messaging to ancillary business such as lawn care, delivery firms, etc. The information presented may be specific or broad based, depending on the target audience.

Finally, staff conducts **specialty education presentations** upon request. Including preparatory and secondary classroom lectures, PowerPoint presentation and informational outreach.

See all the construction education related programming under MCM 1 & 2.

Cooperating Partners

The program also works via a cooperative agreement with NDSU (another MS4) for their construction erosion and sediment control permitting and enforcement programming. SSU staff verifies necessary permitting and enforces the same stormwater regulations on campus and throughout the entire city. Public Works monitors interface connections and maintenance issues between the two systems.

Statistical Data

A statistical dataset is maintained on the construction program. This report provides annual and previous years' data for trend analysis and program performance. A current copy of the report is included at the end of this segment.

MCM 4 Future Goals

In March of 2022 SSU Staff partnered with the Fargo-Moorhead Homebuilders Association, NASECA, and the North Dakota DEQ providing a conference to educate local homebuilders and contractors on construction site runoff. The goal in 2023, is to continue to attract more interest from the private sector for this as an annual event in an effort to educate local builders and contractors right around the startup of a new construction season.

HOMEBUILDER GUIDELINES

FOR EROSION AND SEDIMENT CONTROL

Sites Disturbing Less Than One Acre

Homebuilders must reduce soil loss during home construction. This fact sheet provides general erosion and sediment control (ESC) and stabilization guidelines for homebuilding and other construction that disturbs less than one acre.

Each site is different. Some lots can require additional or alternative controls. Check with local officials to make sure all ESC requirements are addressed. ESC devices must handle a two-year, 24-hour rain event. A two-year, 24-hour event ranges from 1.9 inches of rain in western North Dakota to 2.3 inches of rain in the eastern part of the state over a 24-hour period.

PERIMETER CONTROLS

Perimeter controls capture soil before it leaves the construction site. These types of controls include vegetative buffers, silt fences and fiber rolls.

Vegetative buffers consist of a strip of dense grass. One foot of buffer is required for every five feet of disturbed area that drains to it.

Silt fence and fiber rolls are examples of controls used to capture sediment. Controls of this type capture sediment by ponding water behind them. Ponding allows soil to settle out of the water. A rule of thumb for silt fence is to use one linear foot of silt fence for every 100 square feet of upslope disturbed area.

INLET PROTECTION

Inlet protection devices keep soil out of the storm sewer system. They are a last line of control and must be used with other ESC and stabilization methods. Inlet protection devices need to be selected and installed so water can bypass the device if flooding is a concern.

STABILIZED SITE EXIT

A stabilized construction site exit reduces dirt tracked from the site. Vehicles and equipment must not exit the site from any other place, especially when wet soil conditions are present.

ROOF DRAINS

Roof drains need to be provided with adequate splash pads and/or downspout extensions to prevent erosion from roof runoff.

THE CITY OF Fargo FAR MORE | ENGINEERING

Source: North Dakota Department of Environmental Quality

INSPECTIONS & HOUSEKEEPING

Inspect ESC devices every 14 calendar days and within 24 hours of 1/4 - inch rainfall.

Maintenance or repair should be completed following good housekeeping practices, which includes cleaning and maintain ESC devices, cleaning dirt off streets and picking up debris.

Clean sediment control devices, such as silt fence, before sediment has reached half of the exposed height. Remove sediment, repair or replace the device if it is not functioning properly. Removal of sediment or device repair/ replacement needs to be done within 24 hours of discovery or as soon as field conditions allow.

Clean out sediment traps and basins when the storage volume is reduced by half. This must be done within 72 hours or as soon as field conditions allow.

Remove dirt from streets by the end of the work day or as needed throughout the day

ESC and stabilization must be maintained at the site until there is 70 percent vegetative cover or the site is turned over to the homeowner.

TEMPORARY & PERMANENT COVER

Temporary cover is used to reduce erosion and should be applied to areas where construction activity has ceased and is not planned to resume for 14 days. Temporary stockpiles of material such as clean aggregate, demolished concrete and sand stockpiles are exempt. Temporary cover may be obtained by planting, mulching or using an erosion control blanket.

Permanent cover is any type of cover that will not be disturbed again by construction activities.

MATERIAL STORAGE

Stockpiled material and or construction materials cannot be placed in any stormwater conveyance system (e.g., curb and gutter, boulevard, drainage ditch).

Sediment controls need to be placed between any stockpile and stormwater conveyance system. Stockpiled material should not be placed directly against any device.

Liquid or soluble materials (e.g., oil and paint) must be properly stored to prevent spills or leaks.

WASTE DISPOSAL

All construction debris must be placed in an appropriate container to prevent it from being carried away by wind or water. Dispose of all debris at any appropriate facility.

CONCRETE WASH WATER

Concrete wash water cannot be placed in or allowed to drain to any surface or groundwater or storm sewer system. Place concrete wash water in an appropriate collection system.

Source: North Dakota Department of Environmental Quality

THE CITY OF Fargo FAR MORE

ENGINEERING

FARGO CITY HALL
225 4th Street North
Fargo, ND 58102
Phone: 701.241.1545
FargoND.gov

THE CITY OF Fargo FAR MORE

Construction Permit & Violation Report 2022

Fargo's NPDES construction site pollution control program (MCM 4) addresses potential pollution discharging from a construction or disturbed land site and has been in existence since 2006. The program concentrates on discharges due to water runoff, wind or vehicle tracking. Sediment, garbage, washout areas, dewatering, stockpiles and access are controlled. This year's annual report provides feedback on the effectiveness of our control measures.

PERMITS

In 2022 permits decreased slightly. Storm Sewer Utility Staff still conducted routine weekly inspections of construction sites with the number of vehicle track out infractions citywide. Many infractions are also addressed by phone for efficiency. BMPs still remain the largest infraction - see the violations section.

The Lama permiting system was implemented in 2019. The software creates a smooth process of tracking construction activity throughout the city. This system triggers an Erosion & Sediment Control permit at the inspections department during the approval process for a building permit. The system is still evolving as we learn more tips and tools but allows SSU personel to track and manage our construction site runoff program with ease.
Revenue generated from permit and associated fees remains but a small percentage of the program's total operating cost.

Permits	Issued	$ Revenue	Violations	$ Fees	Violations to Permits	Specific Infraction	Inspectors	$ Total Revenue
2022	380	$7,600	138	$360	36%	206	KJM/ADZ	$7,960
2021	385	$7,700	159	$120	41%	203	KJM/WJM	$7,820
2020	403	$8,060	126	$120	31%	181	KJM	$8,180
2019	305	$6,100	266	$1,140	87%	337	KJM/SO	$7,240
2018	389	$8,894	246	$1,140	63%	323	KJM/DN	$10,034
2017	424	$9,345	263	$840	62%	313	KJM/BN	$10,185
2016	510	$11,717	278	$540	55%	367	KJM/JCL	$12,257
2015	496	$11,282	478	$2,640	96%	691	JP/TS/KM	$13,922
2014	434	$10,162	428	$3,240	99%	765	Josh P	$13,402
2013	585	$13,393	243	$1,740	42%	455	Josh P	$15,133
2012	458	$11,648	307	$1,740	67%	563	Josh P	$13,388
2011	395	$8,936	190	$572	48%	408	Josh/Mark	$9,508
2010	362	$7,917	229	$390	63%	463	Joe	$8,307
2009	362	$7,496	295	$300	81%	477	Craig	$7,796
2008	428	$10,785	304	$3,240	71%	575	Mike	$14,025
2007	489	$11,636	331	$2,880	68%	1,166	John	$14,516
2006	367	$7,460	36	-	10%	36	Steve	$7,460
2005	0	$0	0	-	0	0	0	-

Violations

Violations during 2022 remained consitent although Storm Sewer Utility staff conducted a much higher number of commercial site inspections to reach all active permitted sites throughout the construction season. BMP as an infraction annually tops the list of infractions because it is a more ambiguous (catch-all) term. All infractions not specifically denoted independently are grouped into BMP.

There are several facets to the tracking issue including material delivery, staff (parking & tool off-load), construction equipment, etc. Compounding these elements is the ever shrinking lot sizes which muddles traditional construction practices (maneuverability).

Year	NOVs Issued	BMP	Grass Buffer	Illegal Entrance	Illegal Discharge	Inlet Protection	Permit	Tracking	Total
2022	138	80	2	35	5	19	0	65	206
2021	159	89	2	25	6	10	0	65	197
2020	126	82	6	30	1	4	0	51	181
2019	266	213	10	47	2	17	9	34	337
2018	246	84	4	77	3	35	35	68	323
2017	263	131	32	19	4	20	19	83	313
2016	278	124	6	47	4	23	13	120	367
2015	478	330	2	62	2	27	47	175	691
2014	428	233	2	67	4	74	37	188	765
2013	243	123	24	76	14	22	67	71	455
2012	307	155	14	155	7	34	119	50	563
2011	190	110	11	51	2	32	44	125	408
2010	229	175	18	66	3	35	56	76	463
2009	295	175	16	93	2	43	38	64	477
2008	304	197	8	130	16	34	44	121	575
2007	351	291	152	340	8	38	178	65	1166
2006	36	-	-	-	-	-	-	-	36
2005	-	-	-	-	-	-	-	-	-

Profiling

Contractor	Permits	Violations	Leading Infractions	% Violations To Permit
Jordahl Custom Homes	114	25		21.9%
Thomsen Homes	65	28	BMP maintenance	43.1%
Dabbert Custom Homes	36	2	Street Tracking	5.6%
Brookstone Properties	15	12	Illegal Entrance	80.0%
Adams Development	9	1		11.1%
Designer Homes	8	5		62.5%
Heritage Homes	7	0		0.0%
Krueger Construction	7	2		28.6%
Eid-Co Buildings, Inc	6	3		50.0%
	267	78		
Top 9 permit holders account for	70% of permits and 57% of all violations			

City of Fargo

2022 Monthly Permit List Report

Prepared By: Kevin Morlan

Month/Year: 1/12/2023

Permit Number	Address	Contractors	Date Issued	Total Fees	Description
2201-1065-ESC	3265 Timber Creek Cir S	Heritage Homes LLC	1/19/2022	$ 20.00	ESC for new home.
2201-1256-ESC	3760 Merrifield Dr S	Thomsen Homes LLC	1/26/2022	$ 20.00	ESC for new home.
2202-0027-ESC	1571 67 Ave S	Thomsen Homes LLC	2/1/2022	$ 20.00	ESC for new home.
2202-0036-ESC	1577 67 Ave S	Thomsen Homes LLC	2/1/2022	$ 20.00	ESC for new home.
2202-0038-ESC	1526 67 Ave S	Thomsen Homes LLC	2/1/2022	$ 20.00	ESC for new home.
2202-0136-ESC	3715 Merrifield Dr S	Thomsen Homes LLC	2/7/2022	$ 20.00	ESC for new home.
2202-0231-ESC	7427 Eagle Pointe Dr S	Designer Homes of F-M	2/10/2022	$ 20.00	ESC for new home.
2202-0284-ESC	7272 28 St S	Thomsen Homes LLC	2/14/2022	$ 20.00	ESC for new home.
2202-0317-ESC	1360 55 St N	Gehrtz Construction Services	2/16/2022	$ 20.00	ESC Permit Commercial
2202-0392-ESC	1500 69 Ave S	Thomsen Homes LLC	2/18/2022	$ 20.00	ESC for new home.
2202-0461-ESC	3681 49 St S	Thomsen Homes LLC	2/23/2022	$ 20.00	ESC for new home.
2202-0462-ESC	3798 Merrifield Dr S	Thomsen Homes LLC	2/23/2022	$ 20.00	ESC for new home.
2202-0463-ESC	3657 49 St S	Thomsen Homes LLC	2/23/2022	$ 20.00	ESC for new home.
2202-0464-ESC	3713 49 St S	Thomsen Homes LLC	2/23/2022	$ 20.00	ESC for new home.
2202-0477-ESC	3756 Merrifield Dr S	Thomsen Homes LLC	2/23/2022	$ 20.00	ESC for new home.
2202-0480-ESC	3666 Merrifield Dr S	Thomsen Homes LLC	2/24/2022	$ 20.00	ESC for new home.
2202-0560-ESC	1593 67 Ave S	Thomsen Homes LLC	2/28/2022	$ 20.00	ESC for new home.
2203-0076-ESC	2568 74 Ave S	Thomsen Homes LLC	3/3/2022	$ 20.00	ESC for new home.
2203-0356-ESC	5676 38 St S	Enclave Construction	3/17/2022	$ 20.00	ESC Permit Commercial
2203-0471-ESC	2682 69 Ave S	Krueger Construction	3/22/2022	$ 20.00	ESC for new home.
2203-0509-ESC	5652 36 Ave S	CBE, LLC	3/23/2022	$ 20.00	ESC Permit Commercial
2203-0520-ESC	4763 Tallgrass CV S	Heritage Homes LLC	3/23/2022	$ 20.00	ESC for new home.
2203-0521-ESC	6640 54 Ave S	Klein Custom Homes LLC	3/23/2022	$ 20.00	ESC for new home.
2203-0671-ESC	1544 67 Ave S	Thomsen Homes LLC	3/29/2022	$ 20.00	ESC for new home.
2203-0673-ESC	1570 67 Ave S	Thomsen Homes LLC	3/29/2022	$ 20.00	ESC for new home.

MCM 5

Post Construction Program

MCM 5 – Post-Construction Stormwater Management

The City of Fargo has developed, implemented, and enforces a post-construction pollution reduction program for new and redevelopment projects within its jurisdiction. This includes projects that disturb one or more acres and smaller projects that are part of a larger common plan of development. These "specific requirements" meet or exceed state mandated levels outlined in Appendix 1 of the North Dakota MS4 Permit - NDR04.

Chapter 37 Stormwater Management (regulatory method)

The Stormwater Ordinance establishes criteria for the post-construction stormwater program. Our program sets specific control requirements for the runoff rate and water quality treatment per site, for all development projects including those less than one acre.

Program Outline

- Storm Policy sets specific stormwater guidelines and has computation tables
- Construction/development applications must submit site plans for review/approval with stormwater features: locations, volume and runoff calculations, BMP and maintenance issues.
- Projects areas are evaluated on a per site basis under the site plan review process (see below).
- All previously undeveloped properties and subdivisions are required to provide a Storm Water Management Plan (plan) for the subject area.
- Submission and approval of the plan is required prior to plat approval.
- Failure to comply with the requirements of a site plan review results in a no build situation.

Site Plan Review Process

During the site plan review process, (a requirement set forth in the Land Development Code (LDC)) engineering evaluates all infrastructure connections and conflicting site conditions, including permanent stormwater BMPs. Non-conforming scenarios are notated and the plan returned for correction. This site plan review ensures compliance with the LDC, stormwater requirements of the North Dakota Department of Environmental Quality NDPDES construction permit (NDR11-0000) and MS4 discharge permits and the City of Fargo Stormwater Ordinance.

This process verifies the post construction aspect for permanent stormwater treatment. Each site plan submittal is reviewed via a check-off list for conforming release rates, detention volumes, pipe sizing, etc. Permanent detention features allow options to applicants regarding detention by providing large-scale (regional) retention. A Stormwater Management Report prepared by a Professional Engineer registered in the state of North Dakota, indicating compliance with the discharge rate is required for all developments. Detention/retention volume requirements will be established by the discharge limitation.

General Storm Water Requirements

Authority and Purpose

The City of Fargo operates a Municipal Separate Storm Sewer System (MS4) under authority of the North Dakota Department of Health Permit NDR04-0000 (Discharge Permit), and City of Fargo Code of Ordinances, Chapters 17 and 37. In compliance with this authority, Fargo has developed this Storm Water Policy (storm water policy). This policy establishes standards for storm water discharges and quality treatment for all development within City of Fargo jurisdiction.

Intent of the Policy

The intent of this policy is to provide guidance to those persons working with the City of Fargo **Storm Water Management Ordinance** and to establish uniform, simplified standards that work within the framework of the City's storm water infrastructure.

Target Audience

This policy is applicable to all development (ref Code of Ordinances, Chapter 37, Paragraph 37-0102 7.) falling under the jurisdiction of the City of Fargo.

Storm Water Management Plan

All previously undeveloped properties and subdivisions, re-plats of existing properties for purposes of development, or re-development of existing developed or un-developed lots one (1) acre in size or larger or part of a larger common development that is one (1) acre in size or larger shall provide a Storm Water Management Plan (plan) for the subject area. Submission and approval of the plan is required prior to plat approval. Plan requirements are discussed in **Appendix A**.

Storm Water Discharge Requirement/Limit

The maximum storm water discharge rate shall be as defined in **Appendix C** and shall apply to the following categories:

1. Newly Platted Ag Conversion that is (1) one acre in size or larger or is part of a common development 1 acre in size or larger

2. Re-plat of current parcel that is part of a common development that is (1) one acre in size or larger
3. Re-development of existing parcel that is part of a common development that is 1 acre in size or larger

Storm Water Management Plan

A Storm Water Management Plan, prepared by a Professional Engineer registered in the State of North Dakota, indicating compliance with the discharge rate and laying out in schematic form the storm sewer on site systems is required for all developments. Detention/retention volume requirements will be established by the discharge limitation and the water quality requirements.

Water Quality Treatment

Water quality treatment is required for all new developments or re-plats one (1) acre in size or larger, common developments collectively one acre or larger, and on existing parking lots receiving full re-construction (category 2 & 3 parking lot section above) that are (1) one acre in size or larger or part of a larger common development. Requirements are specified in **Appendix D**.

Storm Water Detention, Retention, and Discharge Pond Design

Appendix E outlines the requirements for storm water pond design.

Requirements within Special Zones

Appendix F outlines the design parameters and coverage area for special zone areas that have been developed into regional drainage areas.

Appendix G outlines the design parameters for areas of the Downtown Mixed Use properties (DMU)

APPENDIX A:

STORM WATER MANAGEMENT PLAN

1. All newly platted Ag Conversion properties, new lot Subdivisions within a larger common development, and infill projects within a larger platted development equal to or greater than 1.0 acre in size are required to have a storm water management plan that includes those Best Management Practices (BMPs) required for the Addition or Subdivision to meet storm water quality and quantity requirements. Approval of the regional storm water management plan is considered part of the plat approval process.

2. Previously platted lots less than one acre, that are part of a larger common development, will be required to have a storm water management plan when the lot is developed. This storm water management plan shall analyze the impact the addition of this newly improved lot will have on the overall storm water features of the common development. As a minimum, these lots shall drain to a common inlet that is connected to the City storm water system, while meeting the allowable release rate and water quality requirements.

3. Article 37-0201 of the City of Fargo Code of Ordinances states: "An owner must submit to the City Engineer a plan for storm water management and control including detention and retention facilities. The plan shall be submitted, and approval obtained from the City Engineer prior to the owner (a) obtaining approval of an application for a plat, pursuant to Section 20-0907 of the Land Development Code of the City, or (b) engaging in any land disturbing activity.

   The plan may include "in the discretion of the City Engineer, arrangements for further planning and implementation of permanent facilities for storm water management and control by subsequent owners of the property being platted or by the current owner at a later time." Delay in producing the storm water plan will be considered when extenuating circumstances dictate but will generally not be allowed.

4. The storm water management plan, at a minimum, shall consist of:

   (1) A Storm Water Management Plan Report prepared using a "Storm Water Modeling System" that provides a modeling report similar in nature to "HydroCad". The report shall document the assumptions, methodologies, and analysis used in arriving at the selected storm water management solution. The report must be "global" in that it looks at the entire area to be developed as well as any impacts to the site created by neighboring areas. The report shall be conceptual in nature and include (1) a narrative describing the existing site conditions, proposed site conditions, types and locations of storm water BMPs proposed to be used, as well as (2) the model calculations for the post-development 2, 10, and 100-year storm events as identified under the most current NOAA Atlas 14 release storm event for Fargo.

(2) Conceptual plan drawings and topographic maps noting all items covered in the report.

(3) Conceptual Operations and Maintenance (O&M) plan for the system covering all requirements for keeping the system operating as planned.

(4) The above-noted items shall be stamped and signed by a Professional Engineer registered in the State of North Dakota.

5. A regional storm water plan can use any combinations of BMPs, selected by the owner and their engineer, enabling the property to meet the storm water quantity and quality requirements. The plan may utilize regional or "on-site" detention/retention and water quality facilities however, per the Fargo Comprehensive Plan; the City desires to see storm water facilities constructed as regional amenities whenever possible. If a regional facility is used, the pond shall be located to facilitate capture of as much site storm water as possible determined by the city engineer, prior to discharging into the City storm water system.

6. The submitted conceptual storm water plan will be reviewed by the City's Engineering Department. The Engineering Department will evaluate the storm water plan and communicate change requirements or recommendations to the owner and their engineer. Changes made to the storm water plan prior to plat approval will be considered part of the original plan. If the plan is very complex, it may be brought before the City Commission for discussion and/or public comment prior to approval.

7. If a subdivided property is covered by a previously approved storm water plan, the previously approved plan shall be reviewed to determine if the subdivided property is still in compliance. A letter from a North Dakota Registered Professional Engineer can accomplish this with city engineer review and approval.

8. The approved plan will exist for the life of the subject property including any changes approved by the City Engineering Department. The final approved plan will be included with the amenities plan.

9. The plan may require dedication of storm water or access easements or additional right-of-way for the construction of storm water conveyance and/or storage facilities.

10. The plan must ensure the subject area conforms to the site specific performance requirements noted in Appendices C and D of this policy.

APPENDIX B:

EXISTING PARKING LOT STORM WATER REQUIREMENTS

Current parking lots that have existing gravel surfacing, asphalt surfacing, concrete surfacing, or are being expanded shall comply with the requirements outlined in this Appendix and shall follow the following categories.

1. Application of these requirements and whether or not City Storm sewer is available within a reasonable distance of the site shall be as determined by the City Engineer.

2. Parking lots that expand over time beyond the original grandfathered project may add enough impervious surface thru surfacing or added buildings to trigger storm water requirements.

3. Existing Parking Lot maintenance or repairs that includes up to complete removal of asphalt or concrete surfacing, localized repair of gravel or subgrade, or surface treatments (spray coatings, chip/fog seals, crack sealing, striping) with no expansion of the current parking areas and result in no change in drainage will be exempt from the storm water requirements.

4. For existing parking lots that are (1) one acre to under (3) three acres and that involve full asphalt or concrete removal, or extensive gravel and subgrade modifications, or mill and overlays that result in modification of drainage patterns, the site shall be required to collect on-site storm water into inlets, add a water quality device, and convey storm water into the City storm water system. A pre versus post engineering drainage study shall be done. If the pre versus post flows are the same or less then no detention is required. If the pre versus post flows are larger then detention shall be required to mitigate the increase in flow only.

5. Existing parking lots (3) three acres or larger that involve full parking lot reconstruction (to include full pavement & base removal) shall be required to collect on-site storm water in inlets and convey storm water into the City storm water system and shall comply with storm water requirements contained in APPENDIX C & D for modeling, discharge rate control, and water quality for the existing parking lot being reconstructed and improved.

6. A pre-post storm water model shall be accomplished for any site, one acre or larger, on which a building addition/expansion is triggering expansion of the parking lot(s). If the post-construction model results in a greater 100-year storm discharge volume than the pre-construction model, discharge rate of the added volume shall meet City discharge rate requirements. If the new impervious area is over one acre, water quality requirements must also be met.

APPENDIX C:

SITE DEVELOPMENT - STORM WATER DISCHARGE REQUIREMENTS

1. The discharge rate for storm water discharging from any site, greater than 3 acres in size, into any drain system within City jurisdiction, shall be limited to 1 cfs/acre. For parcels between 1 and 3 acres the maximum discharge shall be per the following table:

Parcel Size (Acres)	Release Rate (cfs)
1.0	2.00
1.1	2.05
1.2	2.10
1.3	2.15
1.4	2.20
1.5	2.25
1.6	2.30
1.7	2.35
1.8	2.40
1.9	2.45
2.0	2.50
2.1	2.55
2.2	2.60
2.3	2.65
2.4	2.70
2.5	2.75
2.6	2.80
2.7	2.85
2.8	2.90
2.9	2.95
3.0	3.00

This table shall apply to all projects covered under this policy except existing parking lots, which are defined in Appendix B.

2. A storm water report, prepared using a "Storm Water Modeling Software" that provides a modeling report similar in nature to "HydroCad", is required for all developments one acre in size or greater or if part of a larger common development that is 1 acre or larger. The report must include hydrographs depicting flows into and out of all detention/retention facilities and note all flows into the City storm sewer system. In addition to the report, all site plans for sites requiring storm water infrastructure must include:

    - a summary table of post-construction flows for the 2, 10, and 100 year storm, as identified under the most current NOAA Atlas 14 release storm event for Fargo
    - a detail drawing of the outlet structure indicating maximum water elevations for the 2, 10, and 100 year storms, and
    - a written description of the proposed water quality treatment method

3. All sites except existing parking lots (as described in Appendix B) are required to comply with the State Water Quality Design Considerations. Water Quality Design Consideration information is included as **Appendix D** to this policy.

4. The discharge rate noted above will drive detention requirements for a particular site. Dry or wet ponds, oversized pipe, underground storm water storage facilities, or other methods can be used to achieve required storage volumes.

    If a "regional" detention system, as opposed to site-specific ponds, is chosen for the development area, all water shall be routed to the regional pond prior to discharge into the City system. The original, storm water conceptual plan (see Appendix A) must address the conveyance of storm water from all parcels in the development to the regional detention facility.

    If the City of Fargo storm water utility system provides conveyance to the regional facility, the 1.0 CFS/acre criteria shall be used unless otherwise planned for - if the owner requires larger flows to the regional facility, this must be considered/negotiated during the development of the original regional storm water plan and the original amenities plan (such as parallel storm sewer lines or open channel flow to existing ponds).

5. Discharge or overland flow of storm water onto a neighboring property shall not be allowed unless included in the regional plan (see Appendix A) and facilitated through the designation of required easements, dedications, or other methods allowing such conveyance.

6. The State of North Dakota Water Quality standards will be met, the method of treatment shall be selected by the design engineer from the options presented in Appendix D (Water Quality Design Considerations)

7. Construction of “rain gardens”, “grassy swales”, and other methods of achieving water quality are encouraged and will be evaluated on a case-by-case basis.

8. Criteria for construction of regional detention facilities is discussed in **Appendix E**.

9. Each plan set submittal requiring retention/detention shall include a storm system table identifying:

    - Lot size (acreage and square feet)
    - % impervious area
    - Required retention/detention volume (100 year storm event)
    - Supplied retention/detention volume (100 year storm event)
    - Water quality method being proposed including manufacturers data
    - Release rate allowable (cfs)
    - Release rate actual (cfs)

APPENDIX D:
MS4 REQUIREMENTS

The following information is taken directly from page 21 of the current North Dakota NDR04-0000 MS4 Permit, dated April 1, 2021.

Water Quality

A water quality treatment system is required in developments as defined under Appendix C Storm Water Discharge Requirements. The system at a minimum must meet the standards specified below.

The post-construction controls for managing water quality for reducing pollutants carried in the first flush of storm water runoff are outlined below.

The design considerations for treating a water quality volume for common post-construction controls are as follows:

Control	Water Quality Design Consideration
Wet Detention Ponds	Water Quality Volume (Vwq) = **1800 cu-ft per impervious acre draining to the pond.** The drawdown time for the Vwq should be a minimum of 12 hours.
Dry Detention Ponds (w/Extended Detention)	Extended Detention / Water Quality Volume (Vwqed) = **1800 cu-ft per impervious acre draining to pond**. The drawdown time for the Vwqed should be a minimum of 24 hours and not more than 72 hours.
Infiltration	Water Quality Volume (Vwq) = 0.5 inches from impervious area. The volume captured in rain gardens, or passed through bio filters with under drains, would be grouped with infiltration for water quality treatment.
Flow-Through Treatment Devices	Size devices to treat the first 0.5 inches of runoff from impervious area.
Redevelopment / Retrofit	Incorporate water quality criteria by reducing impervious surface area and implementing controls to treat the first 0.5 inches of runoff from impervious areas.

The water quality criteria apply to on-site or regional systems for post-construction storm water management. The water quality considerations do not replace or substitute for water quantity or floodplain management for development. The water quality features may be incorporated into the design of structures for flow control; or water quality control may be achieved with separate features. Flow-Through Treatment devices such as "Defenders ™" shall provide as a minimum 80 percent removal of sediment with a particle size distribution equivalent to the standard OK-110 at a feed concentration of 300 mg/L. The treatment device design shall include a bypass for storm flows above the ½" rain event from the impervious area being served.

If it is impractical to meet the water quality criteria, alternative practices may be used (e.g., grassed swales, smaller ponds, or grit chambers). If a combination of practices is used, the water quality volume is accounted for on a percentage basis. Low impact development and/or green infrastructure practices may be used as an alternative to post-construction controls.

The selection and design of post-construction controls must consider clogging or obstructions, freeze- thaw cycles, effects on slope stability and groundwater, and the ability to effectively maintain the control. Design post-construction controls for ease of inspection and maintenance access (e.g., a stabilized access that allows equipment to enter a pond).

Recommended resources for planning and designing controls for urban storm water runoff are found in the "North Dakota Storm Water Criteria Manual"
https://www.dot.nd.gov/manuals/design/designmanual/designmanual.htm

The property owner is responsible to operate and maintain the water quality device in accordance with the manufacturer's recommendations. The property owner shall maintain records of maintenance of the water quality device and shall prepare an annual inspection report. These records are to be maintained with the property owner and shall be made available to the City if requested.

APPENDIX E:

STORM WATER DETENTION, RETENTION, AND DISCHARGE POND DESIGN

The following information shall apply to Standard Regional Pond Design. The City may take ownership of a storm water pond that is designed according to the following criteria.

Design Requirements:

- Pond design shall be in conformance with the Current NDPDES permit.
- Minimum pond design shall be a 100-year rain event based upon the current NOAA Atlas 14 published data for Fargo and shall include one (1) foot free board. All design modeling shall be done using HydroCad or equal commercially available modeling software. The proposer shall provide to the City a hardcopy Drainage Report signed by a ND Professional Engineer and shall provide an electronic copy of the complete design drainage model.
- Drainage and pond modeling shall include 2 year, 10 year, and 100 year 24 hour rainfall events as part of the analysis model.
- To qualify as a "Regional Pond" for purposes of City ownership and maintenance the minimum pond size for a **"Dry Pond" shall be 7.5 acre-feet** with a minimum bottom width of 100' and the minimum pond size for a **"Wet Pond" shall be 15 acre-feet** with an average bottom width of 100'. However, the City will review on a case-by-case basis whether a pond qualifies as a "Regional Pond" for purposes of City maintenance if its size is smaller than the minimum size identified.
- Pond design shall include 15 feet minimum of level ground from the top of back slope of the pond to the property line.

- Dry Pond-slopes shall be 5:1 or flatter up to 15 foot of vertical depth, 6:1 or flatter if 15 foot of vertical depth or greater, 1.5% grade in pond bottom to low flow channel and 0.4% grade from pond inlet to pond outlet with channel liner and 1% grade from pond inlet to pond outlet without channel liner. Dry ponds do not require a safety bench and slope protection armoring if less than or equal to 10 feet deep. Dry ponds do require a safety bench and slope protection armoring if greater than 10 feet deep. Dry ponds do require a sloped pond bottom and an underdrain system sufficient to maintain a "dry" state.
- Wet Pond-slopes shall be 6:1 or flatter up to 15 foot depth. If the designer wishes, the pond to be deeper than 15 foot a geotechnical evaluation of the pond slope stability is required. If the pond backs up to residential homes or legal drains, a geotechnical evaluation of the pond slope stability is also required. The pond shall be designed with

safety features such as edge plantings to deter entrance to ponds and a safety ledge or bench at pond perimeter 1 foot to 2 foot below normal water level and extend out 10 feet before continuing on slope.

- Slope protection on wet ponds shall be installed to one foot below safety bench or 1 foot above and 1 foot below normal water level whichever is greater. The slope protection shall be riprap or turf reinforcement with seeding. The remainder of exposed slopes shall be turf reinforcement and seeded. Rip Rap shall meet City of Fargo standards and NDDOT standards.
- No fountains or bubblers shall be allowed within City owned regional wet ponds. All pond aesthetic features such as shape, side slopes, and vegetation that are proposed shall be identified on the plans and match the land area requirements identified in the Zoning Ordinance and project development master plan.
- A City owned "Regional Pond" should have sufficient right of way access for routine and special maintenance as determined by the City Engineer.
- The pond drawdown time criteria is outlined in Appendix D.
- The pond design shall include a control outlet structure with emergency over flow design. The over flow structure shall include provisions to prevent overflows from affecting adjoining properties. The out flow and over flow structure shall be designed to prevent plugging, be easily accessible to maintenance personnel, and shall require minimal maintenance. Maximum out flow to a City storm sewer shall be as defined in Appendix C. The release rate may be less depending on meeting water quality standards as defined in Appendix D. However, the minimum outlet orifice size shall be 3 inches and shall have a screen ahead of the orifice to prevent plugging.
- For ponds to be accepted by the City for maintenance and operation as a "Regional Pond" the features in general shall not result in unusual and/or costly future operation and maintenance as determined by the City Engineer. Bridges and box culverts if required shall meet the design criteria of the regulating authority and shall meet State and Federal safety standards.
- Ditches, swales, and channels may be designed for a variety of capacities depending on the protection required. When ditches serve as a primary water surface collector in the upper part of a drainage basin, they shall be designed per NDCC 89-14-01 except that as a minimum, shall convey the 10-year storm event without ponding in the roadway or adjacent private property. The City Engineer will ultimately decide if ditches, swales, or channels are allowed in lieu of conventional underground piping.

- The City of Fargo Storm Water Service Charge policy identifies credits that may be achieved through building of detention or retention ponds larger than as determined by this policy. Developers and designers are encouraged to familiarize themselves with the current Storm Water "Determination and Review Policy" for storm water fees.
- The minimum orifice size shall be 4 inches due to the likelihood of clogging. The engineer shall also look at the addition of a trash rack or other shield or guard installed within the control structure to aid in operation and maintenance.
- The following details shall provide minimum standards for pond design.

APPENDIX F:

Special Zones

1. Southwest Metro Storm Water Design Parameters and Pond Coverage

The following information shall apply to the coverage area for the new southwest Metro Storm Water Pond. Properties that develop in the area shown will have regional storm water detention and storm water quality coverage managed by the City of Fargo. Maps of the drainage boundaries and conceptual design are found in this Appendix. Fargo is moving forward in 2021 to construct the Lift Station and the first phase of the Southwest Metro Storm Water Pond. Drainage ditches and storm sewer piping within public right of ways and easements will be installed as properties and streets develop. Interim measures may be necessary to be constructed, while the larger system is being fully designed and developed due to proposed improvement parcel's location and distance from current completed conveyance system components. This storm water master planning will allow properties within the area outlined, to build without requirements for meeting discharge and water quality requirements outlined in this Design Policy. However, developing properties will need to be aware that the City of Fargo designs their street storm sewers for a 2-year rainfall event on local streets and 5-year rainfall event on arterial streets and developing properties shall design their sites to account for the limited street conveyance of storm water if not directly discharging to the conveyance ditch system or the pond.

Southwest Regional Pond

2. Downtown Mixed Use Zoning (DMU) Requirements

A modification to the storm water retention policy for the existing areas classified as within the downtown mixed use zoning district as of July 27, 2015 and approved by City Commission, this policy is as follows: Any development on a parcel one acre in size or larger within the DMU shall be allowed a maximum storm water runoff rate that is not greater than the existing conditions runoff rate from the parcel for the 2, 10 & 100 year, 24 hour synthetic rainfall events. No storm water retention will be required on the parcel unless necessary to maintain the runoff rate below the existing (pre-development) runoff rate. Lots under 1 acre are exempt from the retention requirements.

This change in policy does not affect the North Dakota Department of Health's water quality requirements. All development of any parcels within the DMU would still be required to follow, as applicable, these water quality requirements set by the Department of Health.

For parcels completing a zoning change to DMU after the effective date of July 27, 2015, property improvements will meet all storm water retention standards per the policy.

Storm Sewer	Does the stormwater system connect to the City of Fargo system?	☐	Section 20-0608
	If not tied into the City system, is proper documentation for not connecting indicated?	☐	
	Is the pipe the correct size and type?	☐	Spec Section 1500
	is the pipe at the correct grade? Does it flow correctly?	☐	Spec Section 1500
	Are inlets and manholes appropriately located and spaced?	☐	Spec Section 1500
	Is Reinforced Concrete Pipe (RCP) used under pavement in the City Right-of-Way?	☐	
	If boring under the street - may use C900 pipe with adequate depth.	☐	
	Are pond outlet structures located outside the 10' Utility easement?	☐	Submittal
	Is there a note stating to call the Inspections Dept. for an inspection of the connection to the City storm system?	☐	
	Ensure storm sewer does not conflict with other underground utilities.	☐	Submittal
Grading	Is there a Grading Plan?	☐	Submittal
	Does the grading plan clearly indicate (arrows and/or elevations) where all site storm water flows?	☐	Submittal
	Is there a 0.5 foot elevation difference between the sidewalk and curb?	☐	Submittal
	Is the elevation 15 feet from structures at BFE or above (check pond slopes)?	☐	Submittal
	Are maximum recommended pond slopes (4:1) exceeded?	☐	Submittal
Storm water	Are HydroCAD (or similar) stormwater model results for the 2 and 100 year storm events included in the submittal?	☐	Submittal
	Does the project involve over 1,000 SF of parking lot?	☐	
	Is the project part of a previously approved larger stormwater plan?	☐	
	Does site imperviousness meet the approved plan parameters?	☐	
	Is on-site storm water detention required?	☐	Detention Policy
	Do detention volumes and discharge rates meet requirements? Check min. 4" orifice	☐	Detention Policy
	Is there a 24 -72 hour drawdown period for the 2 year event? Or, is there a "Defender" device?	☐	State water quality
ESC/SWPPP	Is there an Erosion and Sediment Control Plan?	☐	Submittal
	Does the Erosion and Sediment Control (ESC) plan include all necessary ESC measures?	☐	Submittal
	Does the Erosion and Sediment Control plan include all the appropriate and necessary details?	☐	Submittal
Paving	Is there a Paving Plan?	☐	Submittal
	Does the paving plan clearly indicate paving types and locations?	☐	Submittal
	Is street access appropriate for the pavement functional classification (arterial, collector, local)?	☐	Section 20-0702
	Do driveway widths, placement (spacing), and thickness meet requirements?	☐	
	Do patches match existing pavement sections?	☐	Submittal

Storm Water Data Report Form

Address:	1532 1st Avenue North
Project:	Booth Commercial Condos
Date:	5/18/2021
Brief Description of Work:	Construct 4 commercial condo buildings w/sitework

Site Data

	Acres	SF		
Total Site Area:	2.30	100,188		
Total Impervious Area:	1.32	57,499	Percentage:	57.4 %
Total Pervious Area:	0.98	42,689	Percentage:	42.6 %

Allowed 100 Yr Discharge CFS):	2.7		
Actual 100 Yr Discharge (CFS):	2.4	Difference:	0.3 CFS
Required Storage (CF):	2,924		
Actual Storage (CF):	5,123	Difference:	2,199 CF

Notes:

1. "Required" storage is V required (per model) for the 100 year event. "Actual" storage is V provided at top of pond elevation.
2. Subject parcel is approximately 1.54 acres. Stormwater report covers 2.30 acre drainage area. Drainage area extends onto neigboring property (to the east) - which is owned by the same party as the subject parcel

Storm Assets

Dana Debele
City of Fargo, ND

Summary

Displays asset information for storm sewer for the City of Fargo.

View Full Details

Details

Dashboard
Dashboard

January 11, 2023
Date Updated

January 11, 2023
Published Date

Privately Shared
Select groups can see this content

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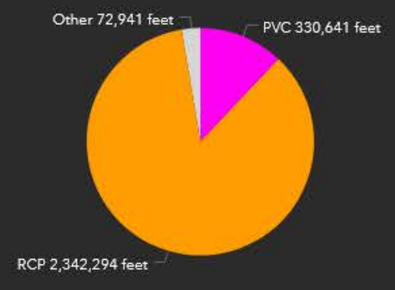
Total Number of Inlets 13,694

Total Number of Manholes 9,866

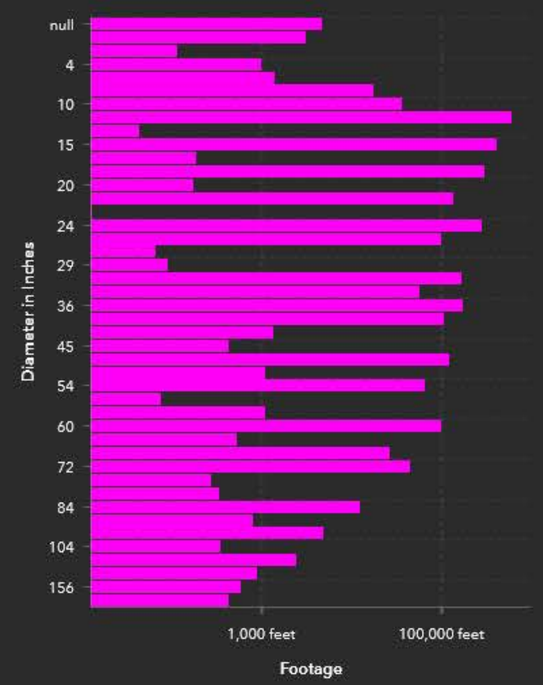
Total Storm Sewer Length 525.43 miles
2,745,876.1 feet

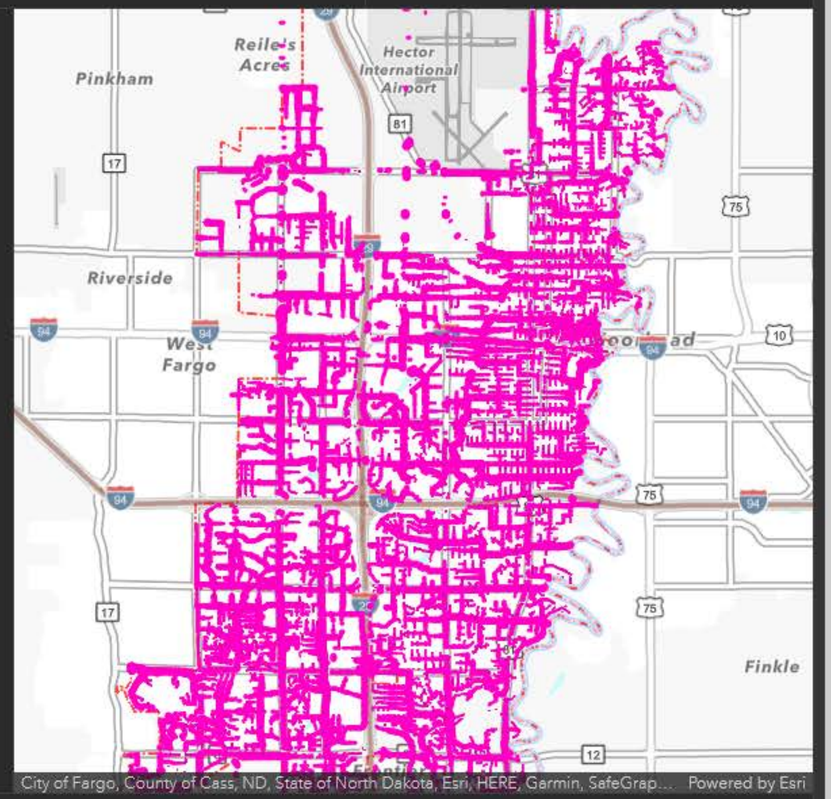
Flared End Sections 763

STORM SEWER MATERIAL

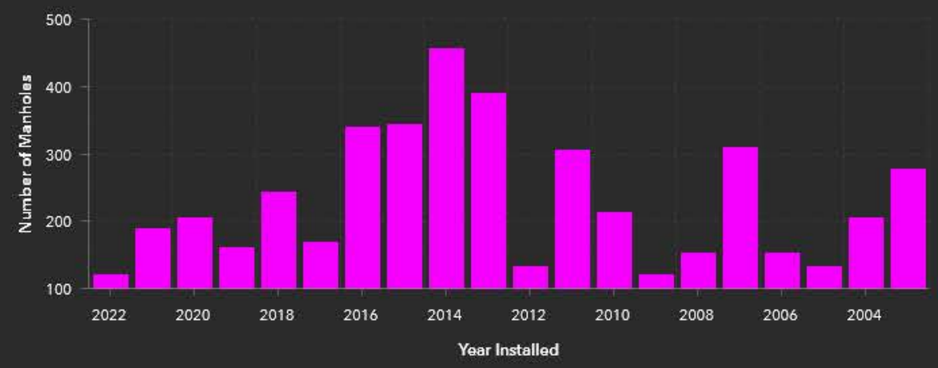


STORM SEWER DIAMETER

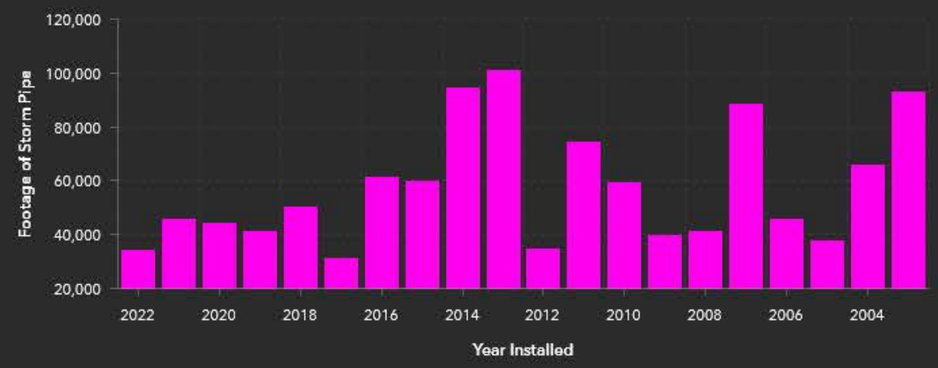




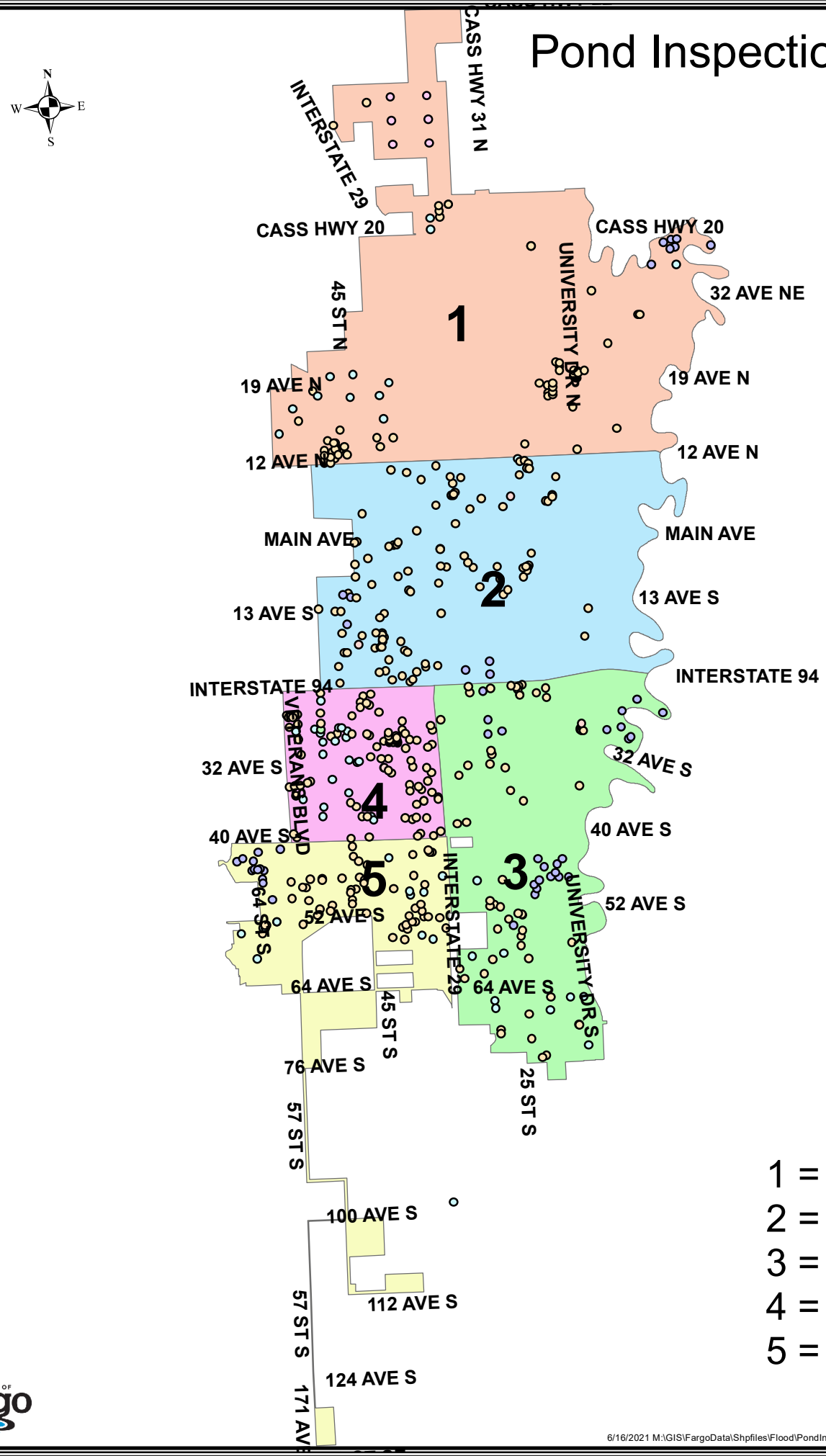
STORM MANHOLES YEAR INSTALLED



STORM SEWER YEAR INSTALLED



Pond Inspection Zones



1 = 88
2 = 111
3 = 91
4 = 119
5 = 80

THE CITY OF Fargo FAR MORE

6/16/2021 M:\GIS\FargoData\Shpfiles\Flood\PondInspectionZones\PondInspectionZones.mxd

OBJECTID	Zone	Address	Location	Comments	Inspection Year
29	5	5800 OSGOOD PKWY S	Osgood Golf Course		
30	5	5800 OSGOOD PKWY S	Osgood Golf Course		
31	5	5800 OSGOOD PKWY S	Osgood Golf Course		
32	5	5800 OSGOOD PKWY S	Osgood Golf Course		
33	5	5800 OSGOOD PKWY S	Osgood Golf Course		
34	5	5800 OSGOOD PKWY S	Osgood Golf Course		
35	5	5800 OSGOOD PKWY S	Osgood Golf Course		
36	5	5800 OSGOOD PKWY S	Osgood Golf Course		
37	5	5800 OSGOOD PKWY S	Osgood Golf Course		
69	5	4300 44 AVE S	Woodhaven	Woodhaven North Pond	2021
70	5	4802 WOODHAVEN DR S	Woodhaven	Woodhaven South Pond	2021
77	5	4824 ROCKING HORSE CIR S	Rocking horse		2022
89	5	3751 53 AVE S			2022
90	5	5537 38 ST S			2022
91	5	5532 38 ST S			2022
99	5	5800 OSGOOD PKWY S	Osgood Golf Course		
100	5	5800 OSGOOD PKWY S	Osgood Golf Course		
105	5	4951 53 ST S	Veteran's Park 1st		2022
114	5	5751 DEER CREEK PKWY S			
124	5	4992 AVERY LN S	Cottagewood	North Pond	2022
125	5	4871 41 ST S	Cottagewood	South Pond	2022
126	5	4896 38 ST S	Cottagewood		2021
139	5	4497 53 ST S			2022
140	5	4498 53 ST S			2022
141	5	4551 47 ST S			2022
142	5	4570 47 ST S			2022
193	5	3901 GREAT PLAINS DR S		West Pond	2022
194	5	3901 GREAT PLAINS DR S		Middle Pond	2022
195	5	3901 GREAT PLAINS DR S		East Pond	2022
220	5	3757 55 AVE S			2022
221	5	3757 55 AVE S			2022
236	5	4022 47 ST S			2022
237	5	4352 47 ST S			2022
238	5	5044 50 AVE S UNIT 21			2022

Standard Operating Procedure (SOPs) for Stormwater Pond Inspections

Procedure

At a minimum, 20% of all Stormwater ponds will be inspected each year on a rotating basis with all ponds inspected before the expiration of the NDR04-0000 MS4 Permit.

- Pond Inventory (January 2022)
    - City of Fargo – 59 ponds
    - Fargo Park District – 59 ponds
    - County Owned – 4 ponds
    - Privately owned – 353 ponds
- The Storm Sewer Utilities Engineer shall manage a list of City-owned/private ponds.
- GIS will be updated when new ponds are constructed or modified.

Inspections

- Staff will visually inspect all of the ponds and end sections of the pipes draining into them at least once during a five year cycle of the NDR04-0000 MS4 Permit.
    - The goal is to inspect 20% of the drainage system each year.
    - All records shall be kept at T:\Engineering\StormMgmnt\Stormwater Management\MS4 - Discharge Permit\PERMIT ADMIN\Pond Inspections

Corrective Action

- Slope/Bank erosion
    - Depending on severity submit a work order to the Public Works Supervisor.
- Blocked or damaged infrastructure
    - Report to Public Works Supervisor with report for cleaning, repair or replacement needs as their schedule allows.

Standard Operating Procedure (SOPs) for Water Quality Device

Procedure

Inspect all water quality devices and underground storage systems at least once every two years on a rotating basis in compliance with the NDR04-0000 MS4 Permit.

- Water Quality Device inventory (January 2022)
  - City of Fargo – 5 WQ devices
  - Privately owned – 103 WQ devices
- The Storm Sewer Utilities Engineer shall manage a list of City-owned/private Water Quality Devices.
- Records of newly added Water Quality Devices will be updated via spreadsheet when they are constructed or modified.

Inspections

- Staff will visually inspect all Water Quality Devices at least once every two years on a rotating basis in compliance with the NDR04-0000 MS4 Permit.
  - The goal is to inspect 50% of structures each year
  - Inspections will consist of structural condition, inflow points, pollution capture functions, sediment levels
  - All records shall be kept at T:\Engineering\StormMgmnt\Stormwater Management\MS4 - Discharge Permit\PERMIT ADMIN\Private_WQ_Maintenance

Corrective Action

- Sediment Levels
  - Sediment levels will require cleaning/removal depending on the manufacturer's recommended O&M manual.
- Damaged infrastructure
  - Repair or replacement shall be required according to the manufacturer's recommended O&M manual.
  - All city owned water quality devices shall be maintained annually regardless of the manufacturer's recommended O&M manual

Engineering Department
225 4th Street North
Fargo, ND 58102
Phone: 701.241.1545 | Fax: 701.241.8101
Email feng@FargoND.gov
www.FargoND.gov

Proprietary Device
Hydrodynamic or Oil/Water Separators
Inspections Checklist /Maintenance Report

Unit Type / Manufacturer:_____
Model #:_____
Location:_____
Inspection Date:_____
Inspected By (print):_____
Owner:_____

Item by Item Code Key:

FF	**Fully Functional (No Repairs Needed or Maintenance Required) = Pass for Inspection**
F	**Functional (No Repairs Needed but Minor Maintenance Required) = Pass for Inspection**
PF	**Partially Functional (Repairs Needed or Major Maintenance Required) = Fail the Inspection**
NF	**Not Functional (Repairs Required) = Fail the Inspection**
MON	**Monitor (Implement schedule to Re-inspect to see if condition improves or worsens (provide schedule)**
N/A	**Not Applicable**

Inflow Points – Inspect where water / material enters the system (inlets/pond):

Assessment	Code Status	Comments
Obstruction: vegetation/debris/sediment		
Structural Condition		
Other (Describe)		

Separator Body – Inspect the Internal Components of the System:

Assessment	Code Status	Comments
Access Hatch/Cover Condition		
Separator Structural Condition		
Central Shaft Condition		
Access Ladder/Steps Condition		
Water Level		
Other (Describe)		

Note : All applicable OSHA rerquirements should be followed for any confined spacs

Pollution Capture Functions:

Function	Design Cleaning Level (manufacturer)	Amount in System (measure = inches)	Maintenance Date	Comments/Notes
Oil Collection Level				
Sediment Level				
Trash Conditions				
Other (Describe)				

Miscellaneous – Inspections:

Assessment	Code Status	Comments
Trash/Debris Around Unit		
Site Access to Unit		
Hazardous Fumes/Odors		
Other (Describe)		

Attach photographs as documentation.

Additional Comments:

Overall Assessment

	System OK	Continue Inspection and Maintenance Schedule
	Perform Maintenance	Date Scheduled -
	Maintenance Performed	Provide Information on Maintenance Performed -
	Schedule Next Inspection for -	Note Changes in Inspection Frequency -

I certify the inspections and required inspection/maintenance/cleaning has been performed for proper performance of the water quality device associated with the above referenced property.

Name (Print)_____

Signature (Certifier)_____

Date:_____

Circle Applicable:

Owner / Inspector / Maintenance Provider

Standard Operating Procedure (SOPs) for Private Storm Sewer

Procedure

All private connections to the city storm sewer system shall be inspected in accordance with section 1500 of City of Fargo Specifications.

- Contractor shall be required to call the City of Fargo Inspections Department to request an inspection prior to backfilling connection locations

Inspection

- Connections will be inspected for proper installation
    - Care shall be taken that the connection between the manhole/inlet and the pipe is watertight
    - Inverts shall be smooth and continuous as it enters and exits the manhole/inlet
    - Mortar around the pipe connection shall be regular concrete (not grout) conforming to the requirements for sidewalks outlined in section 2300 of the City of Fargo standard specifications
    - The concrete below the spring line of the pipe at both the exterior and interior of the manhole/inlet shall be vibrated
    - The interior shall have a wood trowel finish
    - When non-RCP is used, a manhole connection adapter will be required to be installed to achieve a watertight condition – installation shall be per the pipe manufacturer recommendations

MCM 6

Municipal Operations

Public Works Maintenance Operations

All Public stormwater features are inspected on a rotational basis annually for function, maintenance or repair by the public works/engineering departments. Those inspections resulting in major repair are forwarded to the engineering department for evaluation. Ponds and basins are inspected during maintenance activities, lined channels are cleaned and inspected annually, outfalls (and lift stations) are inspected both fall and spring.

Drain Cleaning

This department also conducts a street sweeping program on a continuous basis during non-winter months. Salt storage/fueling operations are covered and not exposed to precipitation. Salt application management continues to use technology to minimize usage. See specific MS4 requirement comments below.

Training

Stormwater training is provided to appropriate city departments and their staff on a rotating basis. SSU curriculum compliments existing department training with a stormwater validation. Most departments have their own unique training for tasks on discipline specific topics that become uniformed operational standards. Recognize, respond and report are common themes in municipal operations. Remarkably, much of their "operational" training is stormwater connected. Some examples of the "common interface" are highlighted below along with SSU educational programming for the significant operational areas of the city.

Conveying the notion "include sound stormwater practice" into
Our everyday operations is beneficial to us all.

Operations, lDDE Training and Awareness

The stormwater "illicit discharge" is not a new concept to operations. Maintenance operations has traditionally focused on prevention and response to incidents that detract from facility design or function standards. Below are examples of operational scenarios that are also stormwater Best Management Practice (BMP).

- If a vehicle crashed into a drainage ditch, staff discovers it, communicates the incident to a supervisor and it gets removed (under an operational directive). Cleanup is a typical duty of operations, but it is also part of the stormwater concept of IDDE. Emphasizing the need to reduce the discharge of fluids and other contaminants from such situations personifies the stormwater educational goal.
- Non-conforming sewer connections, discharges, etc., discovery, awareness, and remediation is a routine operational task. Stormwater training merely serves as a reminder to continue good operational drill because it doubles as good stormwater practice.
- Material spills training in a department's safety protocol also has a direct correlation to stormwater. Protect the employee, pairs as a stormwater BMP by the training emphasis to follow manufacturer's instructions on the use of maintenance chemicals (mixing and application).

Mowing Operations

Consider the practicality of mower discharges placed back onto the turf, an acknowledged stormwater BMP. Yet, operational execution validates that collecting, hauling and dumping the clippings imposes added work and cost which effectively eliminates the option from consideration. Following that same premise, discharging clippings into the gutter only to later retrieve the same clippings from a capacity diminished, conveyance features is illogical. Given the absoluteness of such a fact, stormwater training simply needs to accentuate a correlation.

Snow Removal Operations

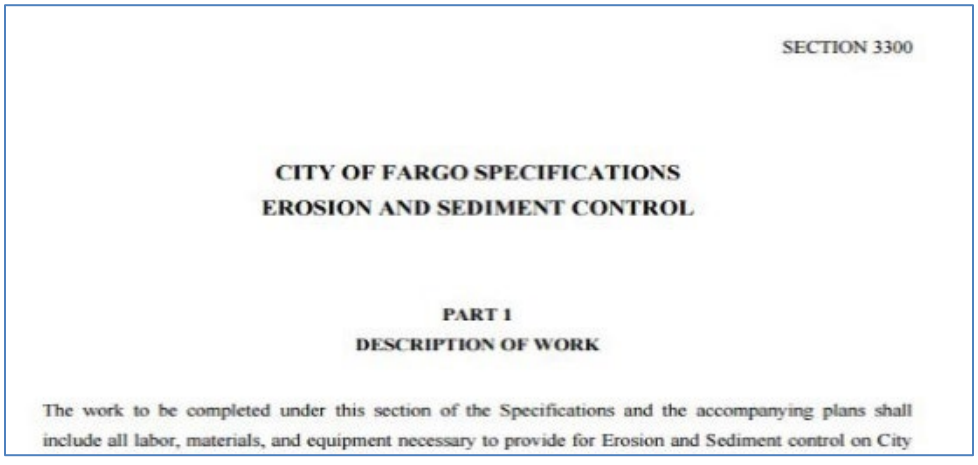
Snow removal occurs on a 24/7 basis following prescribed procedures and routes. Snow is hauled to an approved dump site citywide (Mapped). These snow dump sites all have adequate grass buffers that function as BMPs and are inspected twice each season (fall & spring). Department training on the most efficient routes, dumpsite perimeter control and area limits, the stormwater education aspect is also fulfilled.

Snow Dump Inspections 2022

Location	Date	Time	Stormwater Conveyance	Report of Findings (condition of site)	Action to be taken	Additional Comments
12 Ave/55 St N	5/10/2022	2:03 PM	City Storm Sewer System	Fair - Good	dry out clean debris	None
12 Ave/55 St N	10/24/2022	9:28 AM	City Storm Sewer System	Very Good	None	Asphault millings were added to exsisting
6251 36 St S	5/11/2022	3:09 PM	City Storm Sewer System	Very Good	None	Site is also stockpiling asphault millings
6251 36 St S	10/24/2022	10:14 AM	City Storm Sewer System	Very Good	None	Asphault millings stockpile. Part of this site was used for a laydown yard
3837 38 St S	5/10/2022	2:53 PM	City Storm Sewer System	Very Good	Needs to dry out and clean debris	One large snow pile
3837 38 St S	10/24/2022	9:44 AM	City Storm Sewer System	Very Good	None	None
3 Ave N & 45 St N	5/10/2022	1:58 PM	City Storm Sewer System	Very Good	Site needs to dry out and be cleaned of debris	None
3 Ave N & 45 St N	10/24/2022	9:23 AM	City Storm Sewer System	Very good	None	None
5400 63 St S	5/11/2022	4:03 PM	County Drain #27	Very Good	None	This was a new site added last year
5400 63 St S	10/24/2022	9:53 AM	County Drain #27	Very Good	None	None
450 34 St S	5/10/2022	2:19 PM	County Drain, Storm sewer system	Very Good	Still very wet. Needs to dry out and be cleaned of debris	None
450 34 St S	10/24/2022	10:34 AM	County Drain, Storm sewer system	Very Good	None	None

Land Disturbing Activity

Land disturbing activity abides by Section 3300 of the City of Fargo Standard Specification criteria for stormwater management and erosion control.



SECTION 3300

CITY OF FARGO SPECIFICATIONS
EROSION AND SEDIMENT CONTROL

PART 1
DESCRIPTION OF WORK

The work to be completed under this section of the Specifications and the accompanying plans shall include all labor, materials, and equipment necessary to provide for Erosion and Sediment control on City

Storm Sewer Conveyance Maintenance Operations

Storm sewer maintenance continues perpetually on a rotational or as required basis. The supervisor schedules inspections and directs maintenance work orders. Public works maintenance platform includes inspection (camera), minor repairs, surface sweeping, pipe jetting, mowing, open channel sediment removal and prescribed lift station O & M work.

Roadway Maintenance Operations

Roadway maintenance activities consist of a sweeping program and minor repairs (mill/seal, mud jacking, pothole, etc.)

Standard Operating Procedures, Guides and Policies (Written)

See written procedure examples for maintenance at the end of this section.

Sewer By-Pass Procedure

Log discovery / notice and direct to appropriate department / staff

Receive work order assignment from dispatcher / supervisor.

Organize performance / safety equipment and deploy to field.

Site Assessment

- Ensure personal safety
- Assess problem / scope of repair

Notify affected departments / staff

- Environmental Health 476-6729
- Public Works 241-1453
- Stormwater 241-1545
- Wastewater Treatment Plant (immediately report any sanitary discharge) 241-1545
- Water Filtration Plant 241-1469

Public Safety

- Take action to assure public safety / traffic control / Public Notice

Perform Work

- Discharge to a like facility if possible
- Setup emergency pumping operation
- Take action to reduce downstream effect
- Document with photos, notes

Post Action

- Log on location map / site & discharge point(s)
- Note suggestions for mitigation

Procedure implementation/revision date

_____

Supervisor _____

Mowing Maintenance

Receive work order assignment from supervisor.

Organize performance / safety equipment, load maintenance materials and deploy.

Direct clipping discharges back onto lawn and away from storm water conveyances.

Follow manufacturer's instructions for all chemical use.

Record any required end of task reports.

Procedure date _____

Supervisor _____

Outfall Inspection Procedure

Receive work order assignment from supervisor.

Organize performance/safety equipment and deploy to field.

Perform inspections as directed by the supervisor / Outfall Inspection Form:

- Ensure personal safety
- Complete check-off list and/or comment on irregularities
- Maintain trash rack
- Take a minimum of one digital photo
- Observe up/down stream conditions
- Mark and cordon-off all confirmed or suspect pipe separation locations to a safe level
- Maintain wet well (clean, pump, etc.)
- If Illicit Discharge is observed, follow IDDE Procedure
- Submit completed forms to supervisor
- Maintenance required tracking sheet delivered to engineering for repairs

Trace-back (suspect flow, IDDE, aggregate materials, etc.,) as directed by supervisor

- Isolate location via ascending manhole inspection
- Use direct method (smoke, dye, etc.) to detect origination/source
- Contain, stop discharge and notify owner/occupant to attain conformance
- Obtain/restore compliance

Procedure implementation/revision date _____

Supervisor _____

Storm Outfall Inspection

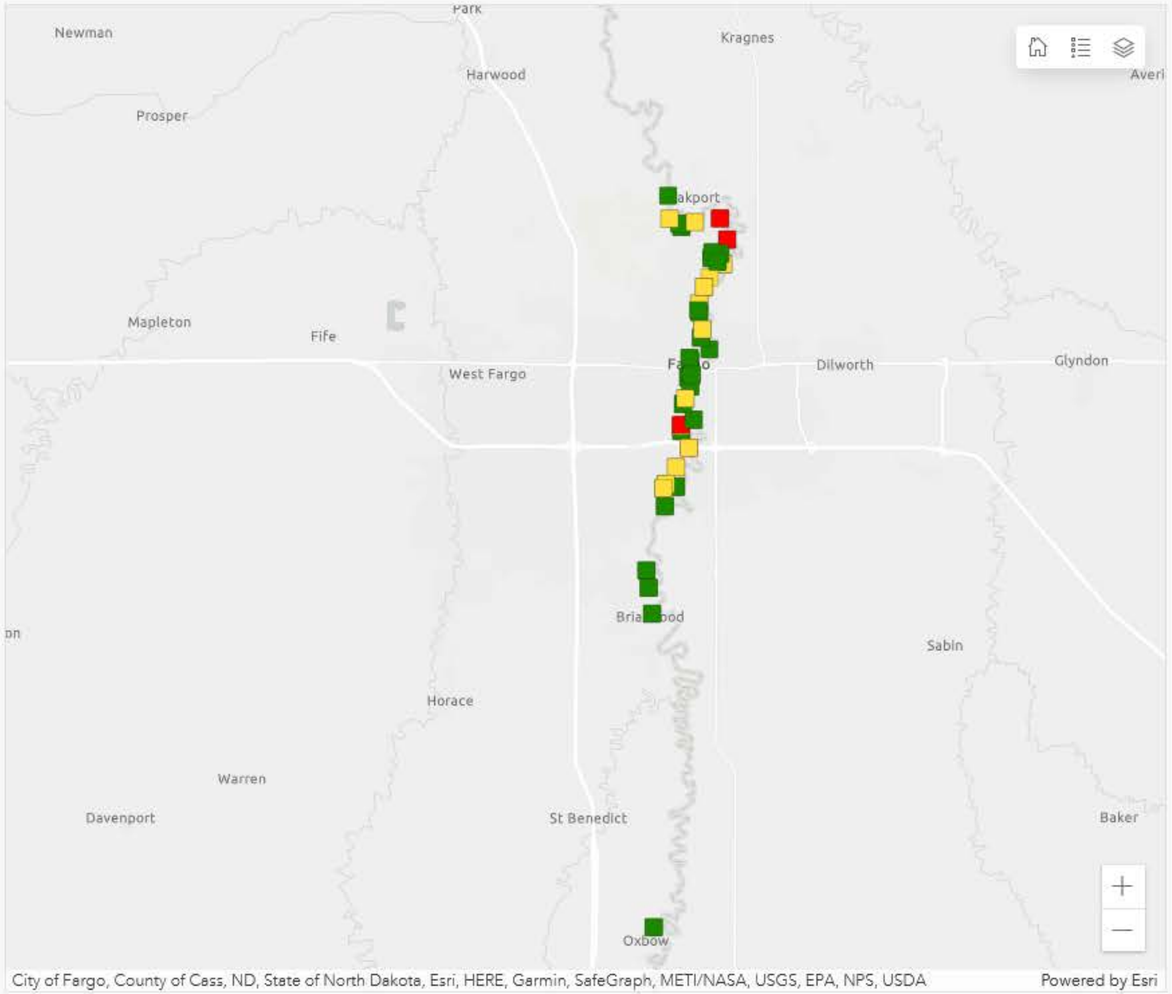
Select Date of Inspection
None

OUTFALL INSPECTIONS

- Lift Station 41
  Overall Outfall Rating: Fair
- 37th Ave. N
  Overall Outfall Rating: Excellent
- Kandi Lane N
  Overall Outfall Rating: Excellent
- Overall Outfall Rating: Fair
- Edgewood Golf Course
  Overall Outfall Rating: Poor
- 32nd Ave. N
  Overall Outfall Rating: Poor
- 28th Ave. N
  Overall Outfall Rating: Excellent
- Lift Station 73
  Overall Outfall Rating: Excellent
- 120 North Woodcrest Dr.
  Overall Outfall Rating: Excellent
- Overall Outfall Rating: Excellent
- North Woodcrest Drive N
  Overall Outfall Rating: Excellent
- Lift Station
  Overall Outfall Rating: Fair
- 15th and Elm n.
  Overall Outfall Rating: Fair
- Elm st between 14 th and 15 th Ave n
  Overall Outfall Rating: Excellent
- 14 th Ave and Elm
  Overall Outfall Rating: Excellent
- 11th Ave. N
  Overall Outfall Rating: Excellent
- North River Road
  Overall Outfall Rating: Excellent
- Storm Lift 23
  Overall Outfall Rating: Excellent
- Main Ave and 2 st lift # 1
  Overall Outfall Rating: Excellent
- Lift Station 18
  Overall Outfall Rating: Excellent

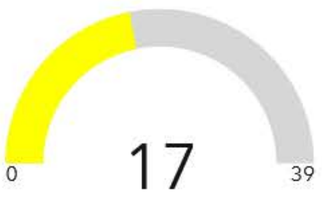
Select from list to filter on map and photos on right.

Last update: 40 seconds ago



Excellent Outfall

Fair Outfall



Poor Outfall

1 of 77

OUTFALL DETAILS

Asset ID: STFES0000302

Location: Lift Station 41

Inspector: Dg

Pipe Separation: No

Tash Rack: No

Rip Rap: Yes

Comments on Outfall: Could use more Rip Rap

Overall Rating: Fair

Last edited by dadebele on 6/22/2021, 10:31 AM.

Last update: 45 seconds ago

Outfall Inspections 2022						
Location	**Date**	**Inspector**	**Pipe Separation**	**Trash Rack**	**Rip Rap**	**Comments/Condition of Trash Rack & Rip Rap**
901 41 Ave N	7/19/2022	Gahner/Bryant	No	Yes	Yes	Good - new outfall
3702 10 St N	"	"	No	No	Yes	Good - could use more rip rap
37 Ave N/Broadway	"	"	No	Yes	Yes	Good
Kandi Lane N/Broadway	"	"	No	Yes	Yes	Good
Trollwood	"	"	No	No	No	Same as last year
Edgewood Golf Course	"	"	No	No	No	2022 Repair UR-21-B1
32 Ave & Eagle St N	"	"	No	No	No	2022 Repair UR-21-B1
29 Ave & North Oaks	"	"	No	No	Yes	Good
28 Ave N & Maple St	"	"	No	Yes	Yes	Good
Lift #73	"	"	No	Yes	Yes	Good
120-114 North Woodcrest Dr ?	"	"	No	No	Yes	Good
North Woodcrest & Park Lane	"	"	No	No	Yes	Good
204 South Woodcrest Dr N	"	"	No	No	Yes	New Outfall FM-19-C1
Behind VA Hospital	"	"	No	No	No	Good
Lift #26 Woodland Dr	"	"	No	No	Yes	2022 Repair UR-21-B1
15 Ave N & Elm St	"	"	No	No	Yes	Apron is broke
Elm St between 14 & 15 Ave N	"	"	No	Yes	Yes	Good
14 Ave N & Elm St	"	"	No	Yes	Yes	Good
11 Ave N & Elm St	"	"	No	No	Yes	Good
North River Rd & 9 Ave N	"	"	No	Yes	Yes	Good
South Terrace & Ash St N	"	"	No	Yes	Yes	New Outfall FM-19-F1
Storm Lift #23	"	"	No	Yes	Yes	Good
Main Ave & 2 St N	"	"	No	Yes	Yes	Good
Lift Station #18 2nd St N	"	"	No	Yes	Yes	Good
6 Ave & 3 St S	"	"	No	No	Yes	2022 Repair UR-21-B1
10 Ave & 4 St S	"	"	No	No	No	Good
12 Ave & 4 St S	"	"	No	Yes	Yes	Good
Dixon Alley	"	"	No	Yes	No	Good
16 Ave & Lindenwood Dr S	"	"	No	No	No	2022 Repair UR-21-B1
17 Ave & Lindenwood Dr S	"	"	No	No	Yes	Someone took trash rack
18 Ave & Lindenwood Dr S	"	"	No	Yes	Yes	Good
21 Ave & 5 St S	7/20/2022	Gahner/Bryant	No	Yes	Yes	2022 Repair UR-21-B1

Park & Course Maintenance

Be aware of and minimize water runoff (discharge) into the storm sewer system. Use Best Management Practices (BMPs) to prevent or minimize the identified pollutants (below) from entering the storm sewer system.

Stormwater Pollutants			
As defined by City of Fargo Code of Ordinances Chapter 37-0102.33 (Stormwater Ordinance)			
Group	Examples		
Dumping	• Debris • Rocks • Metal	• Grass Clippings • Earth Fill • Tree Branches	• Vegetative Materials • Concrete Chunks • Other Construction Materials
Disposal/Misuse	Chemicals: • Fertilizers • Pesticides	• Herbicides	Petroleum Based Products: • Gasoline/Fuels • Oil • Solvents • Paints
Sediment	Migration To: • City Streets • Stormwater Conveyance System	• Private Properties	• Failure to Remove Sediment Tracked by Construction Traffic

Receive work order assignment from supervisor.

Read and follow manufacturer's instructions on mixing and application for all fertilizer, herbicide and pesticide maintenance operations. Discus any concerns with supervisor including post operation cleaning and container disposal.

Organize performance / safety equipment, load maintenance materials and deploy.

Record any required end of task reports.

Procedure date _____

Supervisor _____

Roadway Maintenance Procedure

Receive work order assignment from supervisor.

Organize performance / safety equipment, load maintenance materials and deploy.

Record any required end of task reports.

Procedure date _____

Supervisor _____

DRAIN CLEANING 2022

Drain Location	Date Cleaned		#of Loads	Total Weight in Ton's
Drain #10	7/29/2022 -8/5/2022		15	159
Drain #3	7/25/2022 - 8/10/2022		16	136.72
Drain #40	8/10/2022 - 8-23-2022		20	176.87
Osgood	7/29/2022		2	17.54
Amber Valley PKWY & 51st St S.	7/27/2022		1	1.2
Amber Valley PKWY & 55th St S.	7/27/2022		1	0.5
41st St & 30th Ave S. (SW & NE)	7/27/2022		1	1
23rd Ave & 26th St S.	7/27/2022		1	2.67
North Oaks	8/8/2022		1	2
Drain #27 (Ulteig ENG.)	7/21/2022- 7/22/2022		8	57
34th St North OF 7th Ave N.	8/1/2022		1	10.24
Action 7th Ave & 36th St N.	8/2/2022		1	3.5
Pepsi Drain	8/8/2022		3	12.51
48th St & 15th Ave S. (Scheel's)	8/5/2022		1	3.5
Aggregate Dr.	8/2/2022		1	3
Big Top Bingo Pond	7/28/2022		1	0.25
Luther Ford Holding Pond	7/28/2022		1	6.37
4495 53rd St S. West Side	7/28/2022		1	1.53
Drain #40 (Fisheye)	8/10/2022		2	15
25th St S. 6700 BLK (East Side Davies)	7/28/2022		1	1.12
Roers Holding Pond	8/9/2022		1	3.2
		TOTAL	**65**	**614.72**

small bucket

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identity: AMP

Recommended use of the chemical and restrictions on use: Road anti-icing and de-icing

Manufacturer: EnviroTech Services, Inc.
910 54th Ave, Suite 230
Greeley, CO 80634
Telephone: (970) 346-3900

Emergency Phone: **CHEMTREC: (800) 424-9300**

SDS Date of Preparation: 8/24/2017

2. HAZARDS IDENTIFICATION

GHS Classification:

Physical	Health	Environment
Not Hazardous	Not Hazardous	Not Hazardous

GHS Label Elements:
None Required

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.	Amount
Water	7732-18-5	Balance
Magnesium Chloride	7791-18-6	13-23%
Proprietary Corrosion Inhibitor Blend	Proprietary	Proprietary

The exact concentration is being withheld as a trade secret.

4. FIRST AID MEASURES

Eye: Flush victim's eyes with large quantities of water, while holding the eyelids apart. Get medical attention if irritation occurs and persists.
Skin: Wash skin thoroughly with soap and water. Get medical attention if irritation develops. Remove and launder clothing before reuse.
Ingestion: Do not induce vomiting. Rinse mouth with water and give one glass of water to drink. Never give anything by mouth to an unconscious or convulsing person. Get medical attention if symptoms develop.
Inhalation: Remove victim to fresh air. If breathing is difficult or irritation persists, get medical attention.

Most important Symptoms: May cause slight eye and skin irritation.

Indication of immediate medical attention/special treatment: Immediate medical attention is not required.

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identity: Salt Brine with AMP®
Chemical Name: Sodium chloride solution plus proprietary salt brine enhancer.

Recommended use of the chemical and restrictions on use: Road anti-icing and de-icing**.**

Manufacturer: EnviroTech Services, Inc.
910 54th Avenue Suite 230
Greeley, CO 80634
Telephone: (970) 346-3900

Emergency Phone: **CHEMTREC: (800) 424-9300**
SDS Date of Preparation: 7/18/2017

2. HAZARDS IDENTIFICATION

GHS Classification:

Physical	Health	Environment
Not Hazardous	Not Hazardous	Not Hazardous

GHS Label Elements:
None Required

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.	Amount
AMP® Proprietary Enhancer	Proprietary	5 - 25%
Sodium Chloride	7791-18-6	15-22%
Magnesium Chloride	7786-30-3	0.5-3.25%
Calcium Chloride	10043-52-4	0.4-2%
Water	7732-18-5	Balance

The exact concentration of is customer dependent.
The exact concentration of the AMP Enhancer is being withheld as a trade secret.

FARGO CASS PUBLIC HEALTH - EH SERVICES STATS 2022													
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total YTD**
Complaints													
Air	0	0	0	0	1	0	0	0	0	0	0	0	1
Animals/Insects	0	0	1	0	0	0	0	1	0	1	0	0	3
A uatic Facilities	0	0	0	0	0	0	0	0	0	0	0	0	0
Food Complaints	2	0	1	1	0	0	0	0	1	0	0	0	5
arbage	0	0	0	0	0	0	1	0	0	0	0	0	1
unk/Debris	1	0	0	0	0	0	0	0	0	0	0	0	1
Other	3	7	11	2	0	0	1	0	2	0	0	1	27
Public/Private Drinking Water	0	0	0	0	0	0	0	0	0	0	0	0	0
Tall rass/Weeds/Stagnant Water	0	0	0	0	5	412	295	167	107	23	0	0	10 9
Violations Received	6	7	13	3	6	412	297	169	110	24	0	1	112
Complaints Received	6	7	13	4	6	413	297	169	110	24	0	1	1130
Inspections/Consultations													
A uatic Facilities Inspections	3	1	1	0	20	17	14	52	4		9	11	140
A uatic Facilities Consultations	1	23	13	0	0	0	0	4	0	0	0	0	5
A uatic Facilities Re-check Inspections	0	0	0	0	0	0	0	0	0	0	0	0	0
A uatic Facilities Re-check Consultations	13	3			1	7	0	1	0	0	0	0	41
A uatic Facility Testing Inspections	0	0	0	0	0	0	0	0	0	0	0	0	0
A uatic Facility Testing Consultations	141	71	116	93	61	134	2	0	0	0	0	0	61
Body Art Inspections	0	3	4	0		1	23	26	55	12	11	11	171
Body Art Consultations	0	0	7	12	3	2	2	39		3		1	5
Childcare Inspections	14			7		1	11	4	11	6	2	4	101
Childcare Consultations	0	0	0	0	0	0	0	0	0	0	0	0	0
Food/Bar Inspections	150	105	199	13	144	21	140	125	106	107	164	199	1795
Food/Bar Consultations	152	112	166	193	130	72	56	79	3	3	1	5	1042
rocery/Meat/Bakeries Inspections	26	9	2	20	27	27	5	5	10	17	20	13	207
rocery/Meat/Bakeries Consultations	0	0	0	0	0	1	0	0	0	0	0	0	1
Hoarding Inspections	0	0	0	0	0	0	0	0	0	0	0	0	0
Hoarding Consultations	0	0	0	0	0	0	0	0	0	0	0	0	0
Lodging Inspections	0	0	0	0	0	0	4	3	2	2	3	0	14
Lodging Consultations	5	3	1	0	0	0	0	1	0	0	1	0	11

Miscellaneous Inspections	0	0	0	0	3	0	0	0	0	0	0	0	3
Miscellaneous Consultations	1	3	0	1	0	0	0	0	0	0	0	0	22
Mobile Home Parks Inspections	0	0	0	0	1	0	0	0	0	0	0	0	1
Mobile Home Parks Consultations	0	0	0	0	0	0	0	0	0	0	0	0	0
Nuisance Complaints Inspections	0	1	5	1	4	7	1	7	0	9	0	0	35
Nuisance Complaints Consultations	0	0	0	0	0	0	0	1	0	0	0	0	1
Pet Store Inspections	0	0	0	0	2		0	1	3	0	3	5	22
Pet Store Consultations	0	0	0	0	0	0	0	0	0	0	0	0	0
Septic Permits/Evaluations Inspections	2	1	5	7	12	22	32	25	29	27	12	1	175
Septic Permits/Evaluations Consultations	2	30	29	67	95	116	62	121	51	130	72	23	24
Tanning Inspections	6	5	1	3	1	0	0	0	1	0	0	0	17
Tanning Consultations	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Inspections	201	133	251	176	230	335	230	24	221	1	224	244	26 1
Total Consultations	375	245	340	374	290	332	122	246	97	171	2	29	2703
Samples Collected													
Air	0	0	0	0	0	0	0	0	0	0	0	0	0
A uatic Facilities	0	0	0	0	0	0	0	0	0	1	33	0	51
A uatic Facilities Biological Samples	1	1	3	0	11	6	7	2	1	0	13	0	45
A uatic Facility Testing	30	153	246	203	140	44	30	225	173	253	153	42	224
Miscellaneous	0	0	0	0	0	0	0	0	0	0	0	0	0
Soft Serve Testing	0	0	0	0	0	0	0	0	0	0	0	0	0