Local Water Plan
2018

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1.0 EXECUTIVE SUMMARY

This Local Water Management Plan (the Plan, the Water Plan) serves as a comprehensive planning document to guide the City of Fridley in the management of its water resources. The purposes of this plan, as stated in Minnesota Statute 103B.201, are to:

- Protect, preserve, and use natural surface and groundwater storage and retention systems;
- Minimize public capital expenditures needed to correct flooding and water quality problems;
- Identify and plan for means to effectively protect and improve surface and groundwater quality;
- Establish more uniform local policies and official controls for surface and groundwater management;
- Prevent erosion of soil into surface water systems;
- Promote groundwater recharge;
- Protect and enhance fish and wildlife habitat and water recreational facilities; and
- Secure the other benefits associated with the proper management of surface and groundwater.

This plan builds off of the previous Local Surface Water Management Plan approved in 2001 and included in Chapter 12 of the 2030 Comprehensive Plan. It is intended to meet the content requirements of Minnesota Statute 103B.235 and Minnesota Rules 8410, the Coon Creek Watershed District (CCWD), the Mississippi Watershed Management Organization (MWMO), and the Rice Creek Watershed District (RCWD). The goals and policies of this plan are also designed to meet the requirements of the City's Municipal Separate Storm Sewer System (MS4) permit and the associated Stormwater Pollution Prevention Plan (SWPPP) issued to the City of Fridley by the Minnesota Pollution Control Agency (MPCA) under the National Pollution Discharge Elimination System (NPDES) permit process.

The Plan is divided into the following sections:

Section 1.0 Executive Summary

Section 2.0 Introduction

Section 3.0 Community Setting presents detailed information about the City's physical and built environment including topography, land use, surface water, groundwater, soils, and recreational areas.

Section 4.0 Goals and Objectives outlines the City's goals and objectives for its water resources for this planning cycle.

Section 5.0 Issues and Corrective Actions presents the current water resource issues that must be addressed in order to achieve its water resource goals and objectives.

Section 6.0 Implementation Plan describes how the City will implement the corrective actions required to address its water resource issues.

Section 7.0 References lists the reports, studies, plans, etc. referenced in this document

Appendices:
Appendix A Figures
Appendix B City of Fridley Wetlands Inventory
Appendix C MS4 SWPPP Application for Reauthorization
Appendix D City of Fridley Codes Related to Water Resources
Appendix E MWMO Standards
Appendix F Implementation Plan

1.1 Summary of Community Setting

Section 3.0 provides background information relevant to the City of Fridley's current water resource management. The City of Fridley (population 27,500) is located in Anoka County and covers approximately 10.2 square miles. Fridley is bordered by the Mississippi River to the west, the cities of Coon Rapids, Spring Lake Park, and Blaine to the north, the cities of Mounds View and New Brighton to the East, and the cities of Columbia Heights and Minneapolis to the south. The three largest land use categories in the City are Single Family Residential (29.9%), Right-of-Way (19.6%) and Industrial (19%); 1.6% of the City is currently classified as vacant.

1.1.1 Water Resource Management Responsibilities and Related Agreements

As a downstream community, the City receives stormwater runoff from all of its neighboring communities except for the City of Minneapolis. In general, surface water in Fridley drains westward through the City via the stormsewer system, Springbrook Creek (County Ditch #17), Oak Glen Creek, Stonybrook Creek, and Rice Creek toward the Mississippi River.

Fridley is located within three watershed organizations: Coon Creek Watershed District (CCWD), Mississippi Watershed Management Organization (MWMO), and Rice Creek Watershed District (RCWD). The City of Fridley has entered into a joint cooperation agreement for the creation of the MWMO with the City of Columbia Heights, the City of Hilltop, the City of Lauderdale, the City of Minneapolis, the City of Saint Paul, the City of St. Anthony Village, and the Minneapolis Park and Recreation Board. Refer to the MWMO for a copy of this agreement. The City of Fridley also coordinates the management of shared water resources with neighboring communities to maintain offsite rates and discharge volumes. Additionally, the City has informal arrangements with partner organizations such as Stevenson Elementary to assist with the maintenance of stormwater best management practices (BMPs). Assistance with maintenance of partner BMPs is dependent on the availability of City resources, partner need, and priority of BMP.

The City of Fridley is responsible for construction, maintenance, and operation of the City's

stormwater management system (i.e., catch basins, pipes, bonds, and treatment devices). Anoka County and the Minnesota Department of Transportation (MnDOT) also operate their own stormwater management systems within the city in order to manage drainage within their right-of-ways. Springbrook Creek (County Ditch #17) is the only County Ditch in Fridley and is managed by the Coon Creek Watershed District. Additionally, the Board of Water and Soil Resources (BWSR), MnDOT, the Minnesota Department of Health (MDH), the Minnesota Pollution Control Agency (MPCA), and the Minnesota Department of Natural Resources (MnDNR) oversee the City's water resources in varying capacities.

1.2 Summary of Goals and Objectives

Section 4 outlines the City's water resource goals and objectives for this planning cycle. The following goals have been identified by the City:

Goal #1: All of Fridley's surface waters can be enjoyed to their highest intended use.

Goal #2: Fridley properties and infrastructure are not impacted by flooding.

Goal #3: Wildlife habitat and habitat connectivity are enhanced alongside sustainable, equitable use of public water and public water accesses for recreational purposes.

Goal #4: The quantity and quality of the City of Fridley's groundwater resources are protected.

Goal #5: Fridley residents and businesses are aware of Fridley's water resources and engaged in their protection.

Goal #6: The City is resilient against the impacts of climate change, including the increased frequency of heavy rainfall events.

1.3 Summary of Issues Assessment

Section 5 identifies the issues that are currently preventing the City from reaching its stated goals and objectives. The primary issues in the City are:

- Some Fridley waterbodies are impaired for different uses
- Some Fridley waterbodies are vulnerable to chloride impairment
- Fridley is fully developed and some areas have insufficient stormwater management systems
- Stormwater management systems must be maintained to be effective
- The City does not have comprehensive monitoring data
- Certain areas of Fridley are prone to flooding
- Some shorelines in Fridley are experiencing erosion
- Certain areas of Fridley are vulnerable to groundwater contamination or are otherwise not suitable for infiltration, the preferred stormwater management practice

- A variety of educational strategies are necessary to reach Fridley residents and businesses
- Climate change is expected to disrupt normal weather patterns

1.4 Summary of Implementation Plan

Section 6 presents the implementation program for the City. Appendix F includes the City's Implementation Plan designed to address the issues described in this plan. This list will be updated annually in consultation with watershed organization partners.

2.0 INTRODUCTION

Located in Anoka County and bordered by the communities of Minneapolis, Columbia Heights, New Brighton, Mounds View, Spring Lake Park, Blaine, and Coon Rapids as well as the Mississippi River, Fridley is a 10.2 square mile, inner-ring Twin Cities Metropolitan Area suburb. The City of Fridley became fully developed following a period of rapid development between 1949 and 1963; however, much of the City was reconstructed after a devastating tornado in 1965. Since the 1970s, Fridley's population has remained fairly constant, with an estimated current population of 27,500 residents.

Fridley's desirability as a place to live and work is prompted, in part, by its location along important transit corridors such as the BNSF railroad and NorthStar Commuter Rail, Interstate 694, University Avenue, and Trunk Highway 65. Fridley's natural and recreational amenities also contribute to the City's high livability. In addition to Mississippi River frontage, Fridley contains eight public waterbodies and over 500-acres of parkland.

The City of Fridley has adopted the vision of a community that is a "safe, vibrant, friendly, and stable home for families and businesses." To achieve this vision, the City has adopted the following goals and objectives as part of its 2040 Comprehensive Plan:

Goal #1: Provide a Safe environment for residents and businesses

Goal #2: Maintain Fridley as a Vibrant community in the Twin Cities

Goal #3: Continue to be known as Friendly Fridley in the Twin Cities

Goal #4: Provide a Stable environment in which families and businesses can thrive

Sustainable local water planning is crucial to achieving these goals and maintaining the City as a desirable place to live. This Local Water Plan (the Plan, the Water Plan) serves as a guide for both the City and its partners who maintain jurisdiction over water resources in the City. The Plan contains background information on Fridley, the City's water goals and policies, an assessment of issues preventing obtainment of these goals, and the necessary implementation tasks needed to address these issues in order to achieve these goals.

This Plan is intended to be in effect for 10 years until December 31st, 2027. The City may need to revise this Plan to keep it current. The City may amend this plan at any time in response to a City-identified need or a petition by a resident or business. Written petitions for plan amendments must be submitted to the Director of Public Works. The petition must state the reason for the requested amendment and provide supporting information for the City to consider the request. The City may reject the petition, delay action on the petition until the next full plan revision, or accept the petition as an urgent issue that requires immediate amendment of the plan.

Should it need to be amended, any amendments to the Plan will be provided to the Metropolitan Council and the Coon Creek Watershed District (CCWD), Mississippi Watershed Management Organization (MWMO), and Rice Creek Watershed District (RCWD) in compliance with Minnesota Rules 8410.

3.0 COMMUNITY SETTING

This chapter provides background information of the City of Fridley's physical and built environment.

3.1 Topography and Geology

Fridley's topography is varied and influenced by waterways. Higher elevations exist in the eastern and southeastern portions of the community while lower elevations are associated with the Mississippi River floodplain (See Appendix A, Figure 1).

The surficial deposits of the Fridley area are classified as part of the Anoka Sand Plain and were deposited primarily by glacial ice and meltwater during the most recent glaciation. However, the glacial landscape has been altered by soil formation and erosion during the postglacial periods. All of the glacial deposits were from the Grantsburg Sublobe and the overall thickness of the surficial deposits range from 50 to 100 feet. There are five surficial deposits located in Fridley. Two of the deposits are of glacial origin: lake sand and outwash deposits. The other three deposits are of postglacial origin: alluvium, eolian sand, and terrace deposits. The lake sand deposits are found along the eastern boundary of Fridley and consist of very fine to medium sand with minor silt, and include areas of fluvial sand at or near the surface. The outwash deposits located in the northern portion of the City generally consist of sand and gravel. Alluvium deposits have been identified along Rice Creek and the Mississippi River. These deposits consist of primarily silty sand overlaid in places by sandy loam or peat. Eolian deposits, dunes of very fine to medium sand, are found in the extreme southeastern corner of the City. The terrace deposits are mainly sand and gravel in nature and are found over most of the western two-thirds of the City.

3.2 Land Use

The City's current land use is divided into the following existing and proposed categories:

Table 1. Land Use Distribution

	Existing[1]		**Proposed[2]**	
Land Use	Acres	% Area	Acres	% Area
Single Family Residential	1981.9	29.9%	1952.2	29.5%
Right-of-Way	1294.7	19.6%	1300.2	19.6%
Industrial	1256.0	19.0%	1297.3	19.6%
Parks/Recreation	602.3	9.1%	583.9	8.8%
Commercial	357.2	5.4%	354.4	5.4%
Multi-Family Residential	333.7	5.0%	374.4	5.7%

Institutional	258.2	3.9%	238.1	3.6%
Open Water/Water Feature	159.9	2.4%	168.5	2.5%
Utility	149.1	2.3%	155.5	2.3%
Vacant Lands	108.6	1.6%	0.0	0.0%
Mixed Use	0.0	0.0%	85.9	1.3%
Railroad	92.8	1.4%	87.2	1.3%
Public/Semi-Public	15.0	0.2%	13.0	0.2%
Office	9.7	0.1%	10.1	0.2%
Vacated Right-of-Ways	1.6	0.0%	0.0	0.0%
Total	6620.7	100.00%	6620.7	100.0%

[1] See Appendix A, Figure 2

[2] See Appendix A, Figure 3

In general, Fridley is fully developed with the largest land use being single-family residential. According to the Minnesota Land Cover Classification System, the areas of the highest impervious surface typically correspond with the City's industrial zones (See Appendix A, Figure 4). While future land use within the city is not expected to deviate significantly from the existing land use patterns, several areas of the City have also been identified for redevelopment. The City is also anticipating an increased shift from single-family residential to multi-family residential to meet growing housing needs, which will result in higher density. Further information on Fridley's existing and proposed land use can be found in Section 1 of the 2040 Comprehensive Plan. Several roads have also been identified for redevelopment by the City within the plan cycle (see Appendix A, Figure 5).

3.3 Natural Communities and Rare Species

The DNR produces the Minnesota County Biological Survey (MCBS) identifying natural communities and rare species. The survey shows that rare plants and animals are present in Fridley along West Moore Lake in the Sand Dunes Natural History Area. This area, along with the Springbrook Nature Center and the Mississippi River islands are regarded as areas of biological significance (see Appendix A, Figure 6).

3.4 Surface Water

Within the City of Fridley there are several lakes, watercourses and wetlands (See Appendix A, Figure 7). These surface water features are divided amongst three major drainage areas, each corresponding to a watershed organization with jurisdiction in Fridley: Rice Creek Watershed, Coon Creek Watershed,

and the Mississippi River Watershed (See Appendix A, Figure 8). These three drainage areas are further defined into 796 catchment areas (See Appendix A Figures 9-11), based on hydraulic and hydrologic (H&H) modeling. These catchment areas generally drain westward to the Mississippi River. The City utilizes H and H models that have been designed and are maintained by its partner watershed organizations. As additional hydraulic and hydrologic (H&H) modeling is performed, these catchment areas will become further defined. H &H information is available as part of Rice Creek Watershed District's Hydraulic and Hydrologic Model and Watershed Management Plan; Mississippi Watershed Management Organization's Watershed Modeling; and the Coon Creek Watershed District's Hydrologic model. These models are continually being updated, refer to the appropriate agency for the most recent version.

Some of Fridley's surface water features have been deemed to meet the criteria of public waters set forth in Minnesota Statutes, Section 103G.005, subd. 15 by the Minnesota Department of Natural Resources and are ascribed a MnDNR number. None of the surface waters have been identified as a Priority Lake.

Table 2. Surface Water Features

Waterbody Name	MnDNR Number	Watershed District	Type	Description
Mississippi River	02001a		Watercourse	Fridley is located in the Middle Mississippi River Basin of the Upper Mississippi River which is characterized as a moderately flowing watercourse with sands and silts along the bottom
Oak Glen Creek	n/a	CCWD	Watercourse	Watercourse with the upstream portion piped
Springbrook Wetland	02-0688P	CCWD	Wetland	Large wetland in the Springbrook Nature Center
Springbrook Creek (County Ditch 17)	02009a	CCWD	Watercourse	Watercourse flowing out of Springbrook wetland that is surrounded by a steep ravine; flow is controlled by a manually operated weir located in the Springbrook Nature Center
Stonybrook Creek	n/a	CCWD	Watercourse	Watercourse that is intermittently piped into the Mississippi River due to erosion issues
Rice Creek	02010b	RCWD	Watercourse	Watercourse with a drainage area of approximately 200 square miles; flows to the Mississippi River through the Locke Lake impoundment

Norton Creek	n/a	RCWD	Watercourse	Watercourse that is intermittently piped to Rice Creek
East Moore Lake	02-007-01P	RCWD	Lake	Shallow lake to the east of Trunk Highway 65; a popular fishing destination that is also maintained as swimming and recreation basin on portion of the eastern shore; hydraulically connected to West Moore Lake via culverts
West Moore Lake	02-007-02P	RCWD	Lake	Shallow lake to the west of Trunk Highway 65; hydraulically connected to East Moore Lake via culverts.
Locke Lake	02-0077P	RCWD	Lake	Dredged, impounded basin on Rice Creek, upstream of the confluence with Mississippi River
Harris Pond	02-0684W	RCWD	Wetland	Excavated wetland utilized for stormwater management; undergoes treatment for algae and phosphorus reduction
Farr Lake	02-0078P	RCWD	Wetland	Deep water wetland utilized for stormwater management

3.4.1 Mississippi River

The portion of the Mississippi River in Fridley is part of the Mississippi River Corridor Critical Area (MRCCA) and contains the drinking water intakes for the cities of Minneapolis and St. Paul. It has a varying ordinary high water elevation that coincides with the top of the riverbank. Land use and management within the MRCCA is guided by the City's Critical Area Plan. More information on the MRCCA and the City's Critical Area Plan can be found in Section 9 of the 2040 Comprehensive Plan.

3.4.2 Wetlands

The City completed a Wetland Inventory in 1993 (included in Appendix B), including information on location, size and type of each wetland. This inventory provides a baseline for the location, vegetation, and hydrology of the City's wetlands, but does not include a function or value assessment. The National Wetland Inventory, published in 2018 also includes approximate location of wetlands in the City (See Appendix A, Figure 12).

3.4.3 Floodplains and Shoreland

Floodplains provide valuable floodwater storage and habitat function. The floodplains associated with the Mississippi River, Rice Creek, Springbrook Creek, East Moore Lake, and West Moore Lake are located in Fridley and outlined in the Floodway Maps developed for the Flood Insurance Study for Anoka County in 1980. Slight modifications were made when the maps were digitized in December of

2015 (See Appendix A, Figure 12). Additional revisions to the maps are incorporated based on H&H modeling performed by the City's partners.

3.5 Recreational Areas

Fridley has a strong park and trails system consisting of 581.6 acres of parkland owned by the City and Anoka County, with additional parkland owned and managed by area school districts (See Appendix A, Figure 13). As the City is fully developed, the City is not actively pursuing new parkland. The City requires parkland dedication or payment of a park dedication fee as part of land subdivision in Chapter 211 of City Code. The amount of the dedication is specified by the City Council through the City's Park Dedication Policy

Surface water features are often a key attraction of these parks and trails, providing recreational and scenic amenities and uses. Additionally, some parks contain water quality treatment devices such as the large rain garden in Jay Park and the infiltration system at Summit Square Park.

3.5.1 City Parks

The following City Parks have been identified as having significant surface water features:

Springbrook Nature Center a 127-acre park featuring wetlands, Springbrook Creek, an interpretive center, boardwalks and trails.
Innsbruck Nature Center a 24-acre park featuring wetlands, boardwalks and trails.
Farr Lake a 6.6-acre park along Farr Lake featuring a short trail.
Meadowlands Park- a 9.9-acre park with a large wetland.
Moore Lake Park a 14-acre park along East Moore Lake featuring a swimming beach and fishing piers.
Riverview Heights a 7.4-acre riverfront park at the confluence of the Mississippi River and Springbrook Creek featuring trails.
River Edge Way an unimproved 1.3-acre riverfront park along the Mississippi River.
West Moore Lake Sand Dunes a 7.6-acre natural history area along West Moore Lake featuring trails.
Community Park a 21.0-acre park featuring walking and biking trails along a significant stormwater feature.

3.5.2 County Parks

The following County Parks have been identified as having significant surface water features:

Riverfront Park- a 60.0-acre riverfront park featuring trails and a boat landing.
Islands of Peace Park a 79.0-acre riverfront park featuring trails, a walk-in canoe landing, and an interpretative center currently used as an administrative building.
Manomin Park a 15.0-acre riverfront park including the confluence with Rice Creek that contains the Banfill-Locke Center for the Arts
Rice Creek West Regional Trail Corridor a 32.5-acre park containing a portion of the 4-mile long regional trail along Rice Creek.

Further information about Fridley's parks and trails can be found in Section 4 of the 2040 Comprehensive Plan.

3.6 Stormwater Management System

Fridley has a city-wide storm sewer system which was primarily built between the 1960s-1970s (See Appendix A, Figure 14). During this time period, standard engineering practices called for swift conveyance of storm and melt water to the receiving waterbody or watercourse. The City has taken advantage of opportunities as they have become available to retrofit the system to remove sediment, reduce run-off rates, and promote infiltration and other low-impact design measures. Location and spacing of catch basins, as well as pipe sizes, have generally been designed based on a five- or ten-year storm, depending on the particulars of the road and to some extent the catchment area that is the subject of the design. However, the design for many of these roads are based on lower standards for rainfall events than are seen today. Additionally, many properties in the City were designed without sufficient stormwater management infrastructure. Redevelopment projects present a significant opportunity to the City to install retrofits and maximize stormwater treatment opportunities.

The stormwater management system also includes two dams: one on Rice Creek that creates the Locke Lake impoundment and another along Springbrook Creek within the Springbrook Nature Center.

3.6.1 Capital Investment Projects

Upgrades to the City's stormwater management system are installed as Capital Investment Projects, particularly in conjunction with road and trail reconstruction projects. In addition to numerous retention and detention ponds, the City has installed and maintains several regional stormwater treatment facilities which offer the opportunity to efficiently treat runoff from larger areas. An underground infiltration system was installed at Summit Square Park in 2016 to treat residential stormwater runoff using grant funding from the Mississippi Watershed Management Organization. Oak Glen Creek Pond was expanded and retrofitted with an iron enhanced sand filter in 2017, in partnership with the Anoka Conservation District, to provide regional water quality treatment and flooding relief to neighboring businesses. The City, in partnership with the Rice Creek Watershed District installed an iron enhanced sand filter in 2018 as part of the stormwater management system at the City's new civic campus. Further information on future, potential Capital Investment Projects can be found in Section 6. Implementation Plan.

3.6.2 Rain Gardens

Since 2005, the City has integrated curb-cut rain gardens into neighborhood stormwater systems. The City installs rain gardens on private property and in public right-of-ways through cost shares with local property owners, Anoka Conservation District, and the corresponding watershed organizations. As of 2017, over 40 rain gardens and bioswales have been installed (See Appendix A, Figure 15).

3.6.3 Monitoring

Baseline monitoring data in Fridley is collected by partner agencies as well as citizen volunteers through the MPCA's Citizen Lake Monitoring Program. Monitoring sites include:

- A continuous base flow station near 37th Avenue operated by USGS
- A continuous base flow station that was installed on October, 2014 at a stormwater outfall near the Minneapolis Water Works facility in the Anoka County Riverfront Regional Park by MWMO
- A monitoring station along Rice Creek immediately downstream of Highway 65 operated by Rice Creek Watershed District. This station has collected water quality data non-continuously since 1977 and flow data continuously since 1996
- A water quality station along East Moore Lake and West Moore Lake that is monitored by RCWD for Total Phosphorus and Chlorophyll
- A monitoring station at the outlet of Springbrook Creek at 79th Way that is monitored annually by CCWD
- A monitoring station at Springbrook Creek @ 85th Ave that was monitored annually by CCWD but is planned to be discontinued. 2013-2017 (planned to abandon annual monitoring due to redundancy with upstream site)
- A monitoring station at the outlet of Stonybrook creek monitored by CCWD
- A monitoring station at the outlet of Oak Glen Creek monitored by CCWD

Project specific monitoring is also completed, by the City, its watershed district partners, and the Anoka Conservation District.

3.6.4 Maintenance

The City began prioritizing the inspection and maintenance activities of publicly owned stormwater treatment devices using the Stormwater Asset Management Program (SWAMP) in 2016. SWAMP helps the City prioritize which best management practices need attention so that the City can plan and budget for maintenance.

The City requires maintenance agreements and easements from property owners that install stormwater BMPs on private property as part of a land alteration permit, or proof of a maintenance agreement of the BMP with the watershed district. The SWAMP program also allows the City to track these maintenance schedules in order to ensure compliance.

3.7 Groundwater Resources

Within the City of Fridley, there are multiple locations where groundwater and surface water interact (See Appendix A, Figure 16). As a result, the sensitivity rating for the water table aquifer to pollution in the Fridley area ranges from very high in the central portion and eastern half to high in the northeastern, southwestern, and extreme western portions of the City according to the Regional Hydrogeologic Assessment of the Anoka Sand Plain. Due to the heterogeneous nature of the glacial

deposits, the water table aquifer is highly variable in velocity and groundwater flow direction is generally west or southwest toward the Mississippi River.

In addition to the water table aquifer, there are three bedrock aquifers present in Fridley (the Prairie du Chien-Jordan, the Tunnel City Group (formerly the Franconia Formation)-Wonewoc Sandstone (formerly the Ironton and Galesvilles Sandstones), and the Mt. Simon-Hinckley). The Prairie du Chien-Jordan is the uppermost bedrock aquifer and is present throughout Fridley at thicknesses of up to 140 feet in some areas. The Tunnel City Group (formerly the Franconia Formation)-Wonewoc Sandstone (formerly the Ironton and Galesvilles Sandstones), bedrock aquifer exists beneath the Prairie du Chien-Jordan aquifer and has an approximate maximum thickness of the aquifer is 330 feet. The deepest bedrock aquifer is the Mt. Simon-Hinckley.

All three aquifers are utilized in the production of the City of Fridley's drinking water. The City currently maintains thirteen wells to access this groundwater supply. Drinking Water Supply Management Areas (DWSMA) have been established around these wells and Wellhead Protection Plans have been developed to protect against groundwater contamination. Further information on Fridley's drinking water supply can be found within the City of Fridley's Wellhead Protection Plan and Water Supply Plan. In addition to the City of Fridley's DWSMA, the DWSMAs for Brooklyn Center, New Brighton, and Spring Lake Park extend into Fridley's city limits (See Appendix A, Figure 17). The City participates in Anoka County Municipal Wellhead protection Group which seeks to implement wellhead protection plans in a coordinated, efficient, and effective manner.

3.8 Jurisdictions

Fridley's surface and ground water resources fall under the jurisdiction of several local, state, and federal entities. The City recognizes the roles of these other agencies and cooperates, coordinates, and partner with the agencies when possible. While this plan does not restate all other agency rules that are applicable to resource management, a brief summary is provided:

Table 3. Jurisdiction of Water Resources

Jurisdictional Entity	Jurisdictional Responsibility
United States Army Corps of Engineers (USACOE)	Section 404 permit program; Mississippi River-to the top-of-bank; jurisdictional wetlands
Minnesota Pollution Control Agency	Water quality protection through administration of 401 certification program and NPDES program; Administer the Clean Water Act
Minnesota Department of Natural Resources	Public waters; ground water and water appropriation; floodplain management and flood damage reduction grant program; the shoreland management program; the wild and scenic rivers program; aquatic plant management and fisheries permitting

Board of Water and Soil Resources (BWSR)	Oversight of watershed management organization; oversight of the Wetland Conservation Act
Minnesota Department of Health	Drinking water and groundwater protection; the Well Management program, the Wellhead Protection Program, the Safe Water Drinking Act
Minnesota Department of Transportation (MnDOT)	Drainage associated with MnDOT road right-of-ways.
Metropolitan Council	Regional planning and wastewater treatment
Anoka County	Facilitates and supports local water management and protection through cooperative projects including wellhead protection and loans to repair and seal water wells and septic systems.
Municipal Wellhead Protection Group (Joint Powers Organization)	Implements common elements of municipal wellhead protection plan to prevent contamination of the source of the City's drinking water supply.
Anoka County Community Health Board	Establishes priorities in the protection of water quality and drinking water for the protection of residents.
Coon Creek Watershed District	Surface waters and administration of the Wetland Conservation Act within the CCWD portion of the City; review of Fridley's local water management plan; permitting certain redevelopment and land disturbance activities
Mississippi Watershed Management Organization	Surface waters within the MWMO portion of the Cities; review of Fridley's local water management plan
Rice Creek Watershed District	Surface waters and administration of the Wetland Conservation Act within the RCWD portion of the City; review of Fridley's local water management plan; permitting certain redevelopment and land disturbance activities
City of Fridley	Surface waters and construction, maintenance, and operation of the City's stormwater management systems (i.e., catch basins, pipes, ponds, and treatment devices,); administration of the Wetland Conservation Act within the MWMO portion of the City; administration of MWMO standards within the MWMO portion of the City; local shoreland, critical area, and floodplain management

3.8.1 Watershed Organizations

Regional jurisdiction over Fridley's surface water is shared by three watershed organizations: 1) 22% of Fridley is in the Coon Creek Watershed District, 2) 34% of Fridley is in the Mississippi Watershed

Management Organization, and 3) 43.8% of Fridley is in the Rice Creek Watershed District. These watershed organizations review the City of Fridley's Local Water Management Plan and prepare their own watershed management plans based on the Metropolitan Surface Water Management Act Chapter 509, Laws of 1982, Minnesota Statute Section 103B.201 to 103B.255 as amended). The law requires these plans to focus on:

- Preserving and using natural water storage and retention systems to improve water quality
- Preventing flooding and erosion from surface flows
- Promoting groundwater recharge
- Protecting and enhance fish and wildlife habitat and water recreation facilities
- Reducing, to the greatest practical extent, the public capital expenditures necessary to control excessive volumes and rate of runoff and to improve water quality
- Securing other benefits associated with proper management of surface water

To achieve these goals, watershed organizations complete monitoring and research efforts, install capital improvement projects, and provide education and technical assistance. Rice Creek Watershed District and Coon Creek Watershed District regulate land-disturbing activities, and Mississippi Watershed Management Organization develops standards for regulation that the City of Fridley implements. Further information on these watershed organizations and their plans can be found at:

Coon Creek Watershed District
http://www.cooncreekwd.org/

Rice Creek Watershed District
http://www.ricecreek.org/

Mississippi Water Management Organization
https://www.mwmo.org/

3.8.2 City of Fridley

The City of Fridley is responsible for managing its water resources to protect water quality and prevent flooding. This includes the construction, maintenance, and operation of the City's stormwater management systems (i.e. catchbasins, pipes, ponds, and treatment devices). Since the City operates a Municipal Separate Storm Sewer System (MS4), it is regulated under the National Pollutant and Discharge Elimination System (NPDES) and holds a MS4 general permit. As a regulated MS4, the City must develop a Stormwater Pollution Prevention Plan (SWPPP) that includes:

1. Public Education and Outreach
2. Public Participation/Involvement
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control

5. Post-Construction Stormwater Management
6. Pollution Prevention/Good Housekeeping for Municipal Operations

A copy of Fridley's SWPPP Application for Reauthorization can be found in Appendix C. To meet these NPDES Phase II requirements, the City has implemented water-resource related elements within the City of Fridley's code of ordinances including language related to stormwater management (Chapter 208), erosion control (Chapter 208), obstructions or drainage modifications of Public Waters and Waterways (Chapter 215), and illicit discharge prevention (Chapter 224), which can be found in Appendix D. A stormwater pollution control plan that includes pre-and post-construction stormwater and erosion controls is required as part of any land alteration permit. While each property owner must submit their own post-construction stormwater management plan, property owners can utilize the stormwater management system of another owner to meet their requirements, provided that the system has sufficient capacity and appropriate easements and documentation are provided. Triggers for a land disturbing activity permit can be found in Chapter 208 of City Code. Violations of a land alteration permit or Chapter 208 is handled through formalized enforcement procedures, which are available upon request. The City often works in partnership with Rice Creek Watershed District or Coon Creek Watershed District to address violations within their jurisdiction.

The City has additional regulation related to water resources. Chapters 205.27 and 205.32 of City Code regulate land use within the floodplain and shoreline respectively. The City also regulates potential impacts to wetlands under Chapter 205.29 of City Code and requires a wetland delineation whenever development is proposed that would potentially impact a wetland identified by the City's wetland inventory or the National Wetland Inventory in order to determine if the Wetland Conservation Act may be triggered. Copies of these codes can be found in Appendix D. The City also requires proof of any required watershed district permit.

Land use controls included within these codes can limit a site's impervious surface area and promote stormwater management, and are therefore an important tool in water resource planning. The City of Fridley's codes encourages low impact development by:

- Setting a rate control requirement
- Specifying that redevelopment of existing parcels remove in excess of 80% of suspended solids and other pollutants from a 1.5 inch 24-hour storm event
- Requiring a maintenance agreement for stormwater best management practices installed as part of a building permit
- Allowing shared stormwater management features provided that there is sufficient capacity and appropriate documentation is provided
- Requiring water quality and quantity controls before discharge to wetlands
- Removing the curb and gutter requirement for areas draining toward rain gardens or natural drainage features
- Allowing permeable pavers and reinforced turf grass for overflow parking areas as appropriate
- Setting tree planting requirements for most land uses

- Setting maximum lot coverages for buildings
- Requiring unpaved landscape islands for parking lots containing over 100 stalls
- Allowing for the reduction of parking stalls based on the particular nature of the proposed use and/or proof of parking
- Reducing parking stall width requirements in multi-family, industrial, and manufacturing uses
- Specifying maximum driveway widths
- Allowing shared parking to meet parking stall number requirements

However, certain areas of the City of Fridley's code do not encourage low impact development such as:

- Lack of mitigation provisions for off-site treatment for those projects, including linear projects, where on-site treatment proves to be infeasible
- Lack of land use controls to limit infiltration in unsuitable areas
- Lack of buffer requirement around wetlands and streams
- Requiring parking stalls are a minimum of 10 feet in commercial land uses
- Establishing parking minimums
- Requiring the installation of irrigation systems in certain uses
- Limiting lot coverage based on building size rather than total hard surface
- Building setbacks, which encourage green space, but discourage higher density developments

3.8.2.1 Good Housekeeping

As part of its MS4 permit, the City of Fridley also conducts several good housekeeping practices:

Table 4. Good Housekeeping Practices

Activity	Frequency
Street Sweeping	One spring and one fall round of sweeping citywide
Inspection of Structural Pollution Control Devices	Annual inspection of all devices
Active Construction Inspection	During active construction
Inspection of outfalls, sediment basins, and ponds	Annual inspection of 20% of outfalls or more
SWPPP review	Public works and engineering personnel are certified in the design and review of SWPPPs
Inspection of exposed stockpile, storage, and material handling area	Annual inspection of all city-owned stockpile, storage, and material handling areas
Illicit discharge response	As needed, based on established protocols by the Fridley Fire Department
Record keeping	Maintain records of corrective actions and inspections per record retention policy
Corrective actions	Complete corrective actions associated with inspections

Smart Salting	Completion of Smart Salting Level 2; all plow operators obtain at least Level 1 Smart Salting training;

4.0 GOALS AND OBJECTIVES

The City of Fridley has established priority goals and objectives for its water resource management program. The City has also identified performance measures which can be used to indicate if goals and objectives are being achieved.

Goal #1: All of Fridley's surface waters can be enjoyed to their highest intended use.
Objectives:

1.1 The established Total Maximum Daily Loads and Watershed District goals will be met for all impaired waters.

- Performance Measure: Estimated amount of stressor (i.e. pounds of phosphorus) removed through point source and non-point source reduction methods annually

1.2 No additional waterbodies in Fridley will be added to the Impaired Waters List

- Performance Measure: Number of new waterbodies included on the Minnesota Pollution Control Agency's draft lists of Impaired Waters

1.3 Impacts of illicit discharge are reduced

- Performance Measure: Number of Minimum Control Measures of MS4 permit conditions achieved; Number of illicit discharges

1.4 All stormwater best management practices (BMPs) will be appropriately maintained to ensure functionality.

- Performance Measure: Number of BMPs inspected and maintained annually

Goal #2: Fridley properties and infrastructure are not impacted by flooding.
Objectives:

2.1 The stormwater management system has sufficient capacity to control excessive runoff rates and prevent flooding with minimal environmental impact.

- Performance Measure: Rate of stormwater discharging into the Mississippi at outlets; number and extent of damages to habitat and infrastructure resulting from flooding or drought.

2.2 To minimize public capital expenditures needed to correct flooding issues.

- Performance Measure: Capital expenditures on flooding issues

Goal #3: Wildlife habitat and habitat connectivity is enhanced alongside sustainable, equitable use of public water and public water accesses for recreational purposes.
Objectives:

3.1 Habitat corridors are planted with pollinator-friendly and deep-rooted native, vegetated species.

- Performance Measure: Acreage of significant areas of pollinator-friendly or deep-rooted, native vegetation; lineal feet of buffers along waterbodies

3.2 Fridley residents and visitors enjoy and appreciate the natural amenities of parks in Fridley

- Performance Measure: Number of visitors to Fridley's parks, particularly those parks with a surface water feature

Goal #4: The quantity and quality of the City of Fridley's groundwater resources are protected.

Objectives:

4.1 Water conservation strategies are implemented to ensure that a sufficient, sustainable groundwater supply is available for use as the City's drinking water supply without negatively impacting the water levels of hydrologically connected surface water features.

- Performance Measure: Gallons of drinking water sold

4.2 The existing level of contaminants in Fridley's drinking water is maintained or reduced.

- Performance Measure: Concentration of detected compounds in raw drinking water

Goal #5: Fridley residents and businesses are aware of Fridley's water resources and engaged in their protection.

Objectives

5.1 Fridley residents and businesses understand the fundamentals of water resource management and water conservation.

- Performance Measure: Number of residents and businesses reached

5.2 Fridley residents and businesses implement stormwater best management practices on their private property.

- Performance Measure: Number of best management practices voluntarily installed or implemented

Goal #6: The City will be resilient against the impacts of climate change, including the increased frequency of heavy rainfall events.

Objectives

6.1 City capital investment projects are designed to withstand the impacts of climate change.

- Performance Measure: Amount of damage to publicly owned infrastructure from extreme weather events

6.2 The impact of development on water resources is reduced through site planning and implementation of best management practices.

- Performance Measure: Amount of impervious surface reduced; number of stormwater best management practices installed or implemented.

6.3 The City is prepared to protect its citizens, built environment, and natural environment during emergencies.

- Performance Measure: Demonstrated preparedness and response to future emergencies

5.0 ISSUES ASSESSMENT

The City of Fridley has identified the following existing issues that must be addressed in order to achieve the City's water resource management goals outlined in Section 4.0. A map of the areas referenced in this section can be found in Appendix A, Figure 18.

5.1 Existing Issues:

Goal #1: All of Fridley's surface waters can be enjoyed to their highest intended use.

Issue 1.1: The following waterbodies have been listed as impaired on the Minnesota Pollution Control Agency's 2018 Draft Impaired Water's List. Total Maximum Daily Loads (TMDLs) has been developed to address some of these impairments. Additional waterbodies may be at risk for impairment from upstream sources or contaminants of emerging concern.

Table 5. MPCA's 2018 Draft Impaired Waters

Waterbody	Impairment (Stressor)	Approved TMDL (Yes/No)
Mississippi River	Aquatic Consumption (PCB in fish tissue)	No
	Aquatic Life (Nutrients)	No
	Aquatic Recreation (Fecal coliform)	No
	Mercury in fish tissue	Yes; statewide TMDL
Rice Creek	Aquatic Life (Aquatic Macroinvertebrate bioassessment)	No
	Aquatic Life (Fishes bioassessment)	No
	Aquatic Recreation (*E. coli*)	Yes; Upper Mississippi River Bacteria TMDL
East Moore Lake	Aquatic Recreation (Nutrients)	Yes; Southwest Urban Lakes TMDL
Springbrook Creek	Aquatic Life (Aquatic Macroinvertebrate bioassessment)	Yes; Coon Creek Watershed District WRAPS
	Aquatic Recreation (*E.coli*)	Yes; Upper Mississippi River Bacteria TMDL
Pike Lake[1]	Aquatic Recreation (Nutrients)	Yes; Southwest Urban Lakes TMDL

[1]Pike Lake is located in New Brighton, but receives runoff from Fridley

Action 1.1.A The City, in coordination with partner agencies, will install stormwater best management practices during future capital investment projects and complete standalone water quality and quantity improvement projects.

Action 1.1.B The City will implement good housekeeping practices as described in the City's SWPPP.

Action 1.1.C The City will require pre- and post-construction stormwater controls as part of land alteration permits; the City will update Chapter 208 to include MWMO regulatory standards within the MWMO (see Appendix E); the City will continue to rely on CCWD and RCWD to implement their regulatory standards within their jurisdictions and require proof of any applicable permit under City Code Chapter 208.

Action 1.1.D The City will provide education to residents and businesses on how they can improve water quality.

Action 1.1.E The City will enforce City Code Chapter 204 and maintain an effective spill response plan to prevent and respond to illicit discharges.

Issue 1.2 The Twin Cities Metropolitan Area Chloride TMDL identifies Springbrook Creek as highly vulnerable to chloride impairment; other waterbodies may be vulnerable to chloride impairment due to stormwater runoff.

Action 1.2.A The City will maintain Smart Salting Level 2 certification from the MPCA.

Action 1.2.B All snow plow drivers will receive Smart Salting Level 1 certification from the MPCA.

Action 1.2.C The City will monitor salt use and adjust equipment and operations to decrease chloride application while maintaining safe winter driving conditions.

Action 1.2.D The City will work with its partners to educate residents and businesses on proper salt application.

Issue 1.3 The City of Fridley is fully developed and many properties and roads were constructed with high levels of impervious surface and insufficient stormwater management systems. Furthermore, areas with a high concentration of small properties and residential properties continue to be exempt from current stormwater management regulations.

Action 1.3.A See Corrective Action 1.1.A.

Action 1.3.B The City will evaluate opportunities to install regional treatment systems and stormwater best management practices in public spaces and right-of-ways in areas in areas

identified in H&H modeling and sub-watershed assessments as suitable for providing regional treatment, dependent on availability of land and financial feasibility.

Action 1.3.C The City will integrate water quality and water quantity improvements into road reconstruction projects and evaluate the opportunity to decrease road widths, install vegetation, and implement stormwater best management practices where appropriate during road reconstruction projects. The opportunities will be incorporated into any "Living Streets" policies.

Action 1.3.D See Corrective Action 1.1.C.

Action 1.3.E The City will evaluate incentivizing voluntary installation of stormwater best management practices and in the City through the stormwater utility fee and other measures; The City will evaluate strategies for achieving de-pavement through ordinance, the stormwater utility fee, incentives, or other measures.

Action 1.3.F The City will continue to implement the residential rain garden program.

Issue 1.4 Stormwater best management practices that are installed by public and private entities must be maintained in order to provide water quality benefits.

Action 1.4.A The City will continue to use the SWAMP program to prioritize maintenance of City-owned stormwater BMPs and inspection of private stormwater BMPs as well as evaluate sediment levels in waterbodies.

Action 1.4.B The City will remove sediment from City-owned stormwater BMPs identified by the SWAMP program.

Action 1.4.C The City will implement enforcement procedures in coordination with its watershed partners to ensure that approved pre- and post-construction controls are functioning and privately held maintenance agreements are followed.

Issue 1.5 Comprehensive monitoring data is needed to establish baselines, prioritize projects, and track progress toward meeting TMDL goals

Action 1.5.A The City will support watershed partners in establishment of baseline monitoring stations and data collection.

Action 1.5.B The City will provide project-specific monitoring where needed.

Goal #2: Fridley properties and infrastructure are not impacted by flooding.

Issue 2.1 Certain areas of the City have experienced flooding or are at-risk for flooding.

Action 2.1.A See Corrective Action 1.1.A

Action 2.1.B The City will replace undersized stormwater systems as opportunities arise and funding allows.

Action 2.1.C The City will partner with watershed organizations to perform comprehensive H &H modeling of the City and its floodplains and drainage areas.

Goal #3: Wildlife habitat and habitat connectivity is enhanced alongside sustainable, equitable use of public water and public water accesses for recreational purposes.

Issue 3.1 Shorelands of waterbodies have been developed and do not provide suitable wildlife habitat.

Action 3.1.A The City will encourage property owners along shoreland properties to plant natively vegetated buffers through targeted education.

Action 3.1.B The City will analyze City parks for suitable areas for no-mow grass or native perennial plantings and install natively vegetated buffers along waterbodies in City-owned parks.

Action 3.1.C The City will partner with appropriate agencies to remove invasive species that may negatively impact water quality.

Action 3.1.D The City will update the Critical Area overlay ordinance for consistency with updated MRCCA rules and to promote establishment of native vegetation.

Issue 3.2 The City has received reports of incidents of slope shifting, also known as mass wasting, along small portions of the Mississippi River. The City has also observed instances of erosion along other waterbodies

Action 3.2.A The City will partner with Watershed Districts to monitor erosion along Mississippi River.

Action 3.2.B The City will partner with Watershed Districts to repair erosion along waterbodies.

Goal #4: The quantity and quality of the City of Fridley's groundwater resources are protected.

Issue 4.1 The majority of the City is located within a Drinking Water Surface Management Area (DWSMA), which necessitates increased land use controls to protect groundwater-based drinking supplies from contamination. Potential wells and contaminants within the DWSMA were identified in the City's Wellhead Protection Plan. While the City generally promotes infiltration as a stormwater best management practice, it should be noted that this may not be appropriate on all sites.

Action 4.1.A The City will follow the Minnesota Department of Health's guidelines for stormwater management in Drinking Water Surface Management Areas.

Action 4.1.B The City will adopt the Minnesota Stormwater Manual by reference in Chapter 208.

Action 4.1.C The City will partner with Anoka County to continue the well sealing program.

Action 4.1.D The City will continue to participate in the Anoka County Municipal Wellhead Protection Group and coordinate with neighboring communities included within Fridley's DWSMA regarding wellhead protection.

Issue 4.2 Fridley's groundwater is also its drinking water supply. Unsustainable water use could deplete groundwater supply levels.

Action 4.2.A The City will update the Fridley City Code to promote water efficient landscaping.

Action 4.2.B The City will promote stormwater reuse and allow for internal building water re-use as permitted in the building code.

Action 4.2.C The City will provide rebates or incentives for installing water efficient appliances and Smart Irrigation when available.

Goal #5: Fridley residents and businesses are aware of Fridley's water resources and engaged in their protection.

Issue 5.1 The City of Fridley completes its education and outreach through the City's bi-monthly newsletter, social media, Springbrook Nature Center, and at community events. Audience numbers can be found in the City's MS4 reports. Common topics include illicit discharge prevention, lawn care, and Smart Salting. A variety of educational and outreach strategies are needed to increase awareness of Fridley's water resources and support positive behavior change.

Action 5.1.A The City will partner with watershed partners to continue existing educational activities and evaluate new outreach tactics to equitably engage all citizens.

Action 5.1.C See Corrective Action 1.3.E

Action 5.1.B See Corrective Action 3.1.A

Goal #6: The City will be resilient against the impacts of climate change, including the increased frequency of heavy rainfall events.

Issue 6.1 The increased frequency and intensity of large rain storms associated with climate change may require additional capacity to manage, store, and treat stormwater. In order to most accurately size stormwater management infrastructure for increased levels of precipitation, the City utilizes the National Oceanic and Atmospheric Administration's (NOAA) Atlas 14 precipitation data as its design

standard, since Atlas 14 estimations have a higher level of confidence than previous standards. The City also encourages increased stormwater treatment capacity through the capital investment projects and public-private projects described elsewhere in this Plan.

The City must also prepare for the potential impacts of drought which could affect the City's drinking water supply. The City's water conservation and protection initiatives are described in the Wellhead Protection Plan and Water Supply Plan.

Action 6.1.A The City will adjust design standards based on evolving climate data and best practices.

Action 6.1.B The City will update and enact the City of Fridley's Emergency Operations Plan to address impacts from climate change and extreme weather events.

Action 6.1.C The City will evaluate the installation of monitoring devices within stormwater infrastructure to better predict and respond to flooding during severe weather events.

Action 6.1.D The City will evaluate Fridley's codes every three years to identify opportunities to increase resiliency, greening and promote low-impact development.

5.2 Potential Issues

In the future, the City is anticipating that the following new issues will arise and need to be addressed:

Future Issue 1.0 Legacy chloride contamination may negatively impact water quality.

Action 1.1 The City will focus on preventing chloride contamination by implementing Smart Salting Best Management Practices

Future Issue 2.0 Chemicals of Emerging Concern may impact water quality and contaminate stormwater pond sediments

Action 2.1 The City will partner with watershed districts and other appropriate agencies to monitor for Chemicals of Emerging Concern

Action 2.2 The City will utilize the SWAMP program to manage and budget for the proper disposal of stormwater pond sediments

Future Issue 3.0 Unpredicted impacts of climate change may alter weather events and cause damage to infrastructure

Action 3.1 The City will continue to utilize the most relevant modeling data when reviewing and designing stormwater infrastructure.

Action 3.2 The City will evaluate the opportunity to integrate "Smart" infrastructure into the stormsewer system where feasible.

5.3 Policies

The following are the City's policies when implementing the above corrective actions:

1. Work in partnership with other agencies to achieve efficiencies and achieve higher levels of water quality treatment.
2. Streamline processes and promote consistency to minimize public and private expenditures and allow for innovation.
3. Look for opportunities to integrate GreenStep Cities Best Practices, greening, habitat improvements, stormwater reuse, and other co-benefits in both public and private development.
4. Promote low-impact design, through comprehensive site planning, shared parking facilities, and other strategies to reduce impervious surface.
5. Utilize regional treatment to address issues where on-site detention is not feasible or appropriate.
6. Encourage groundwater recharge where feasible and appropriate.
7. Utilize the Development Review Committee, comprised of staff from multiple departments, to review redevelopment projects for improvements to stormwater treatment.

6 IMPLEMENTATION

6.1 Implementation Plan

Appendix F contains the City's Priority Projects and Program List. This list will be updated on an ongoing bases based on identified needs and inputs from agency partners including RCWD, CCWD, and MWMO. Further feasibility and analysis is required before implementation of many of the programs included in the Priority Projects and Program List.

6.2 Code Revision Process

As part of this process, the City identified the need to revise City Code Chapter 208 in order to integrate Mississippi Watershed Management Organization standards and additional MS4 permit requirements. A Memorandum of Understanding will be developed with the MWMO to include standards that meet or exceed MWMO standards within a code revision, which will also include updated MS4 standards.

All other code updates associated with the 2040 Comprehensive Plan, including the Critical Area Overlay code, will be updated within six months of the adoption of the 2040 Comprehensive Plan. At a minimum, the City will consider if policy or ordinance revisions are needed to keep this plan current every three years.

6.3 Interdepartmental Coordination

Implementation of this Local Water Plan requires the integration of land use and water resource planning, which is managed in Fridley through a weekly inter-departmental coordination meeting known as the Development Review Committee. As part of the Development Review Committee, a multi-department team including representatives from the Engineering and Planning departments simultaneously review development proposals and land use changes. This forum can identify opportunities for cost-savings, innovative stormwater treatment, and regional treatment and refer developers to the appropriate watershed district. The Environmental Planner position, which works within both the Engineering and Planning divisions, can serve as a liaison for property owners interested in installing stormwater best management practices on their own property.

6.4 Financial Considerations

The City will fund the implementation of the Local Water Plan through the Stormwater Utility Fund, grant funding from agency partners, and cost-sharing with property owners. The Stormwater Utility Fee is a flat rate, quarterly fee based on property type and size. In 2015, the City implemented a 75% increase in the rates to more comprehensively cover the costs associated with the stormwater management system. Additionally, certain parts of the stormwater management system, such as curb and gutter repairs, are paid for through the road assessment. If funds from these fees do not cover costs, the City can adjust the Stormwater Utility Fee as well as use general funds to cover the costs.

The Stormwater Utility fund is allocated into programs and projects through the City's Capital Investment Program (CIP) which is updated annually based on five-year projections. The Comprehensive Plan, the Local Water Plan, identified maintenance and improvement needs, and alignment of project schedules form the basis of the CIP.

6.5 Plan Approval and Adoption

This plan will be submitted to the Coon Creek Watershed District, Rice Creek Watershed District, Mississippi Watershed Management Organization and the Metropolitan Council for formal review and approval, in accordance with MN Statute 103B.235, Subp. 3. Within 120 days of approval by these entities, the City of Fridley will adopt and implement this plan. Within 30 days of adoption and implementation of this plan, including adoption of official controls, the City will notify the watershed district of the actions, in accordance with MN Rules 8410.0170, Subp. 12.

6.6 Plan Revision and Amendments

This Plan is intended to be in effect for 10 years until December 31st, 2027. The City may need to revise this Plan to keep it current. The City may amend this plan at any time in response a City-identified need or a petition by a resident or business. Written petitions for plan amendments must be submitted to the Director of Public Works. The petition must state the reason for the requested amendment and provide supporting information for the City to consider the request. The City may reject the petition, delay action on the petition until the next full plan revision, or accept the petition as an urgent issue that requires immediate amendment of the plan.

Should it need to be amended, any amendments to the Plan will be provided to the Metropolitan Council and the Coon Creek Watershed District (CCWD), Mississippi Watershed Management Organization (MWMO), and Rice Creek Watershed District (RCWD) in compliance with Minnesota Rules 8410.

7 REFERENCES

Coon Creek Watershed District. 2013. Coon Creek Watershed District Watershed Management Plan 2013-2023.

Coon Creek Watershed District. 2016. Coon Creek Watershed District Watershed Restoration and Protection Strategy Report (WRAPS). 59 pp.

Mississippi Watershed Management Organization. 2011. Watershed Management Plan 2011-2021 (11-09-2016)

MWMO Watershed Bulletin 2011-3. 186 pp.

Rice Creek Watershed District. 2016. 2010 Watershed Management Plan. 256 pp.

Rice Creek Watershed District. 2014. Southwest Urban Lakes: Total Maximum Daily Load Study. 71 pp.

Rice Creek Watershed District. 2009. Southwest Urban Lakes Study. 2009. 283 pp.

Rice Creek Watershed District. 2007. Southwest Urban Lakes Study Phase 1 Report. 45 pp.

Appendix A

Figures

Figure 1: Elevation

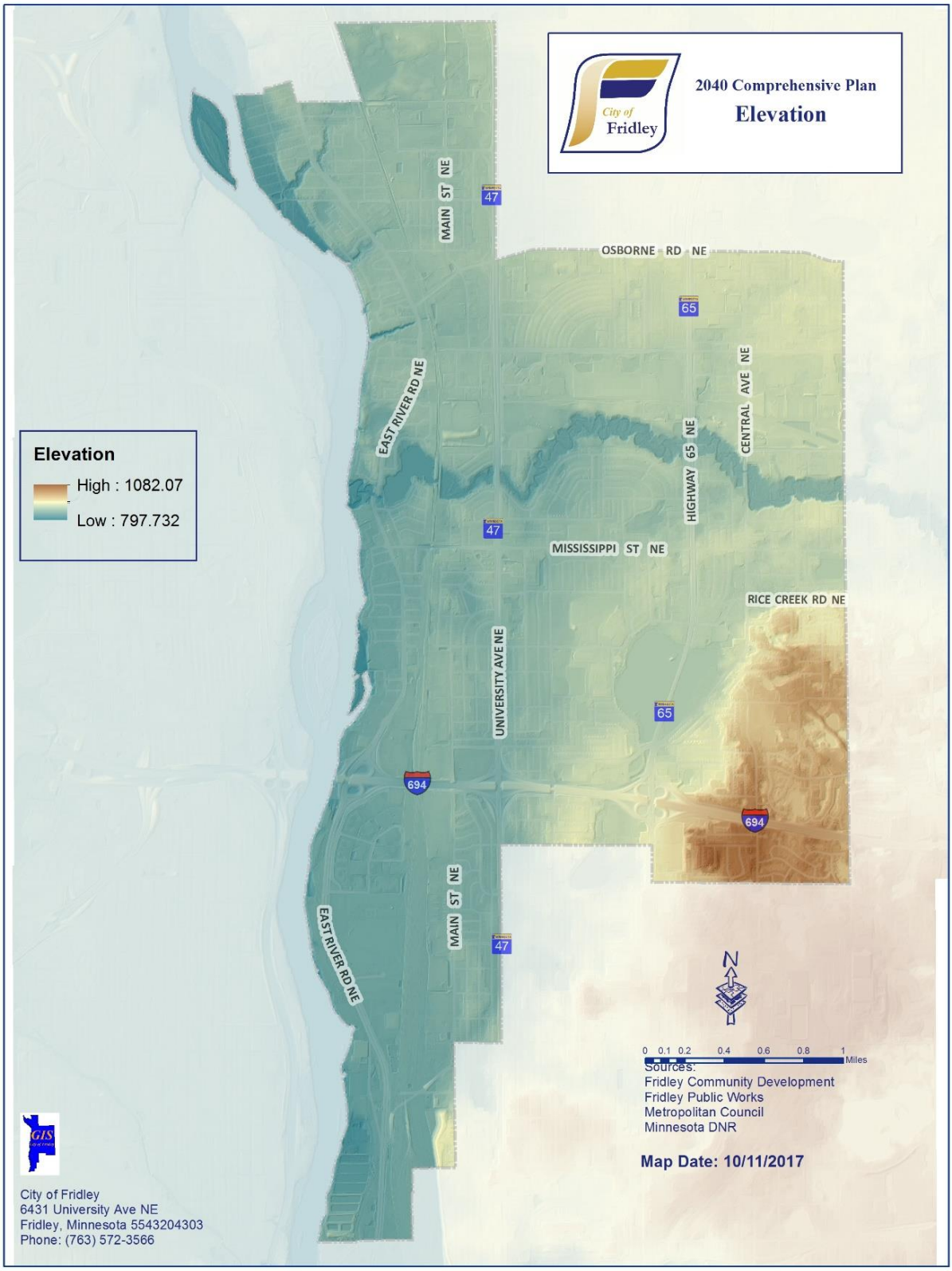


Figure 2. Existing Land Use

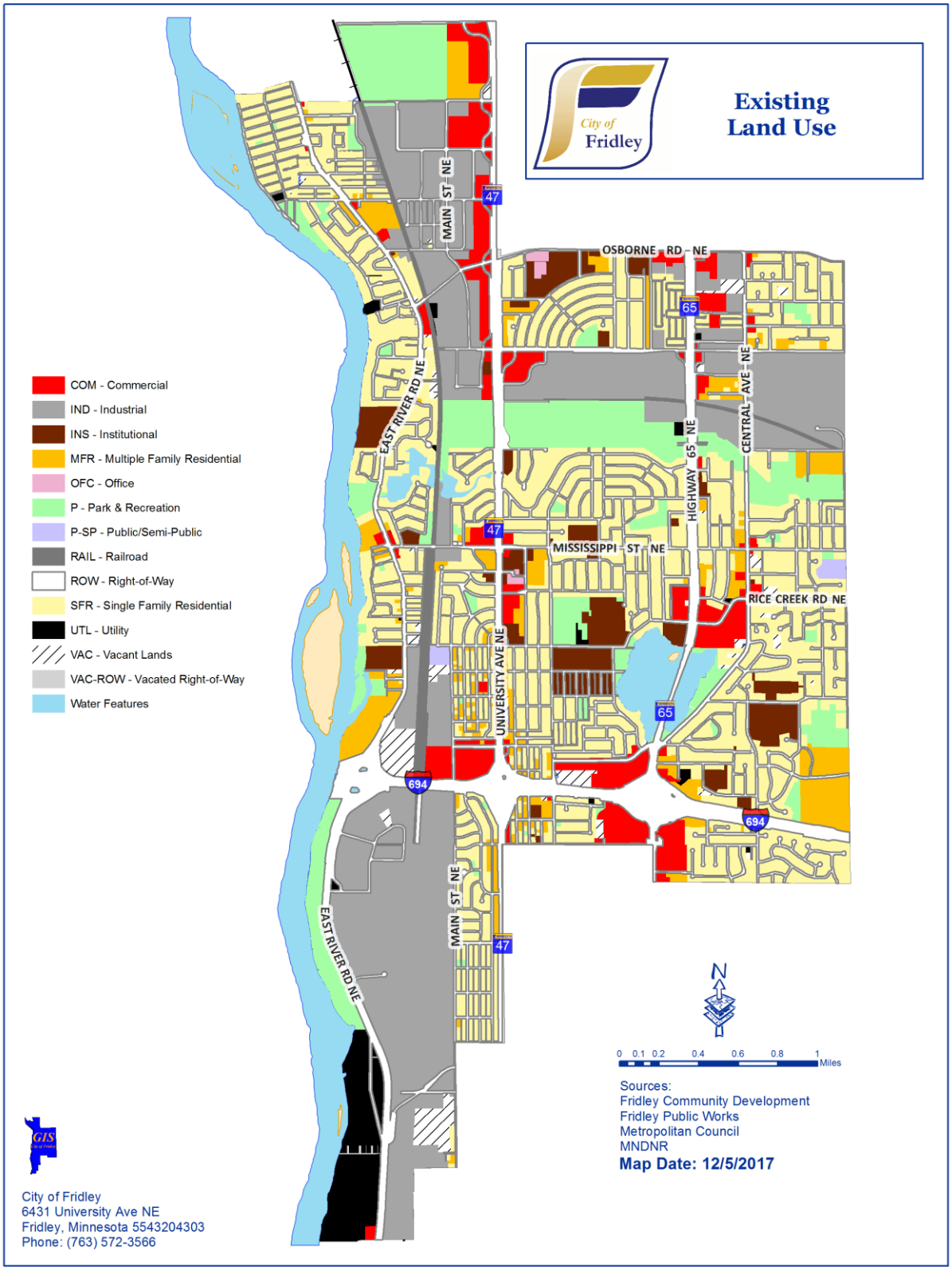


Figure 3. Future Land Use

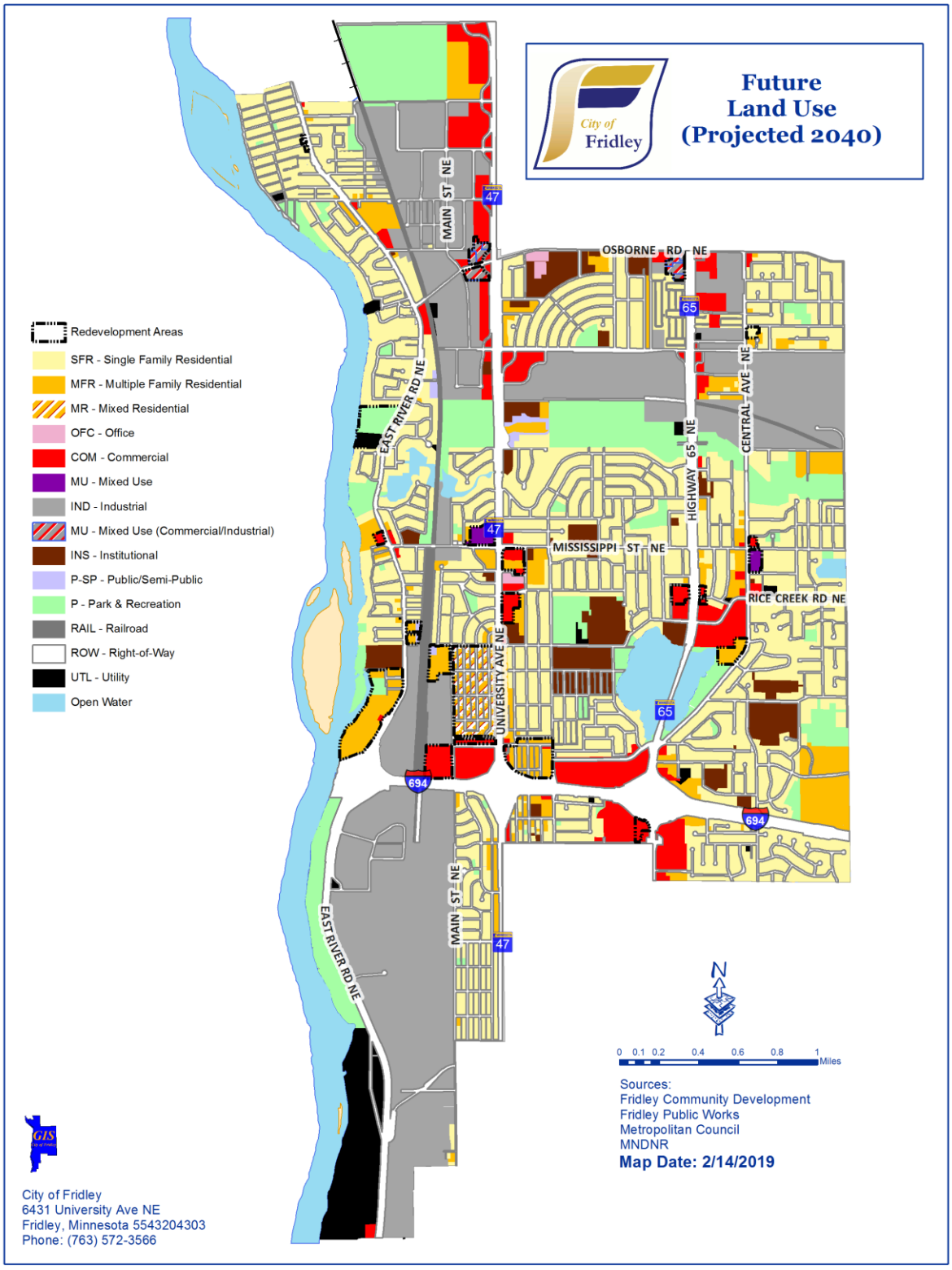


Figure 4. Minnesota Land Cover Classification System

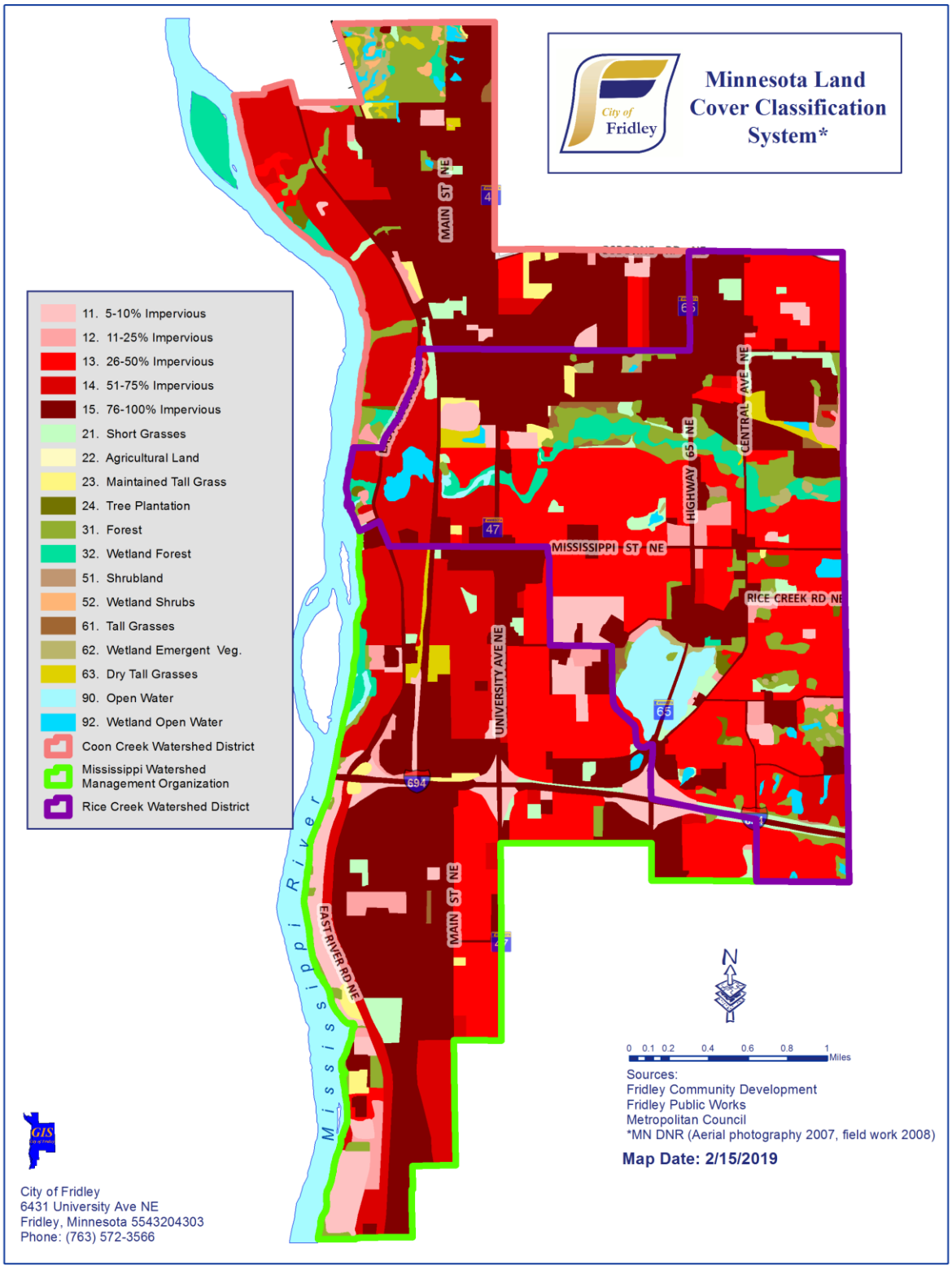


Figure 5. Street Resurfacing Plan 2018-2029

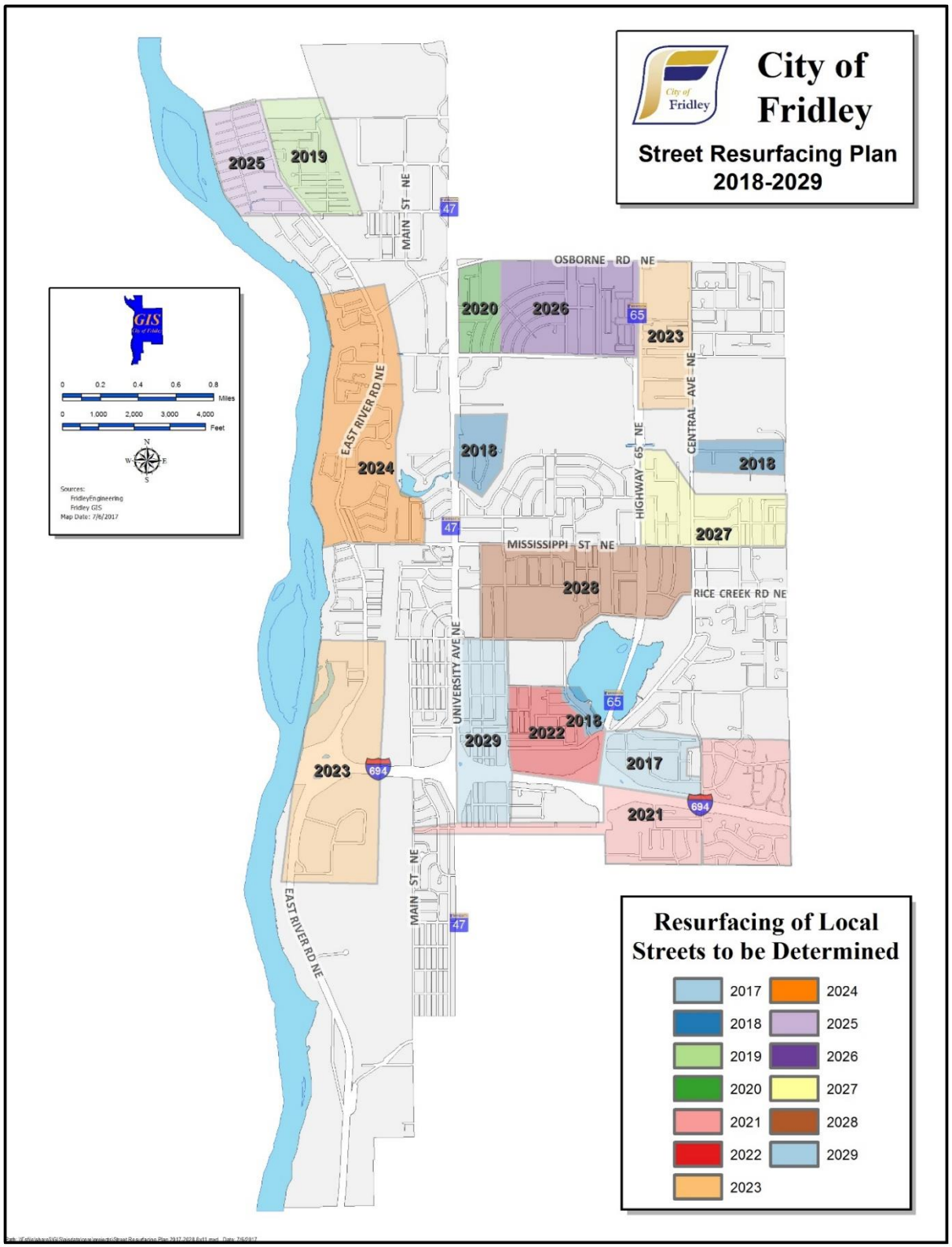


Figure 6. Areas of Biodiversity Significance

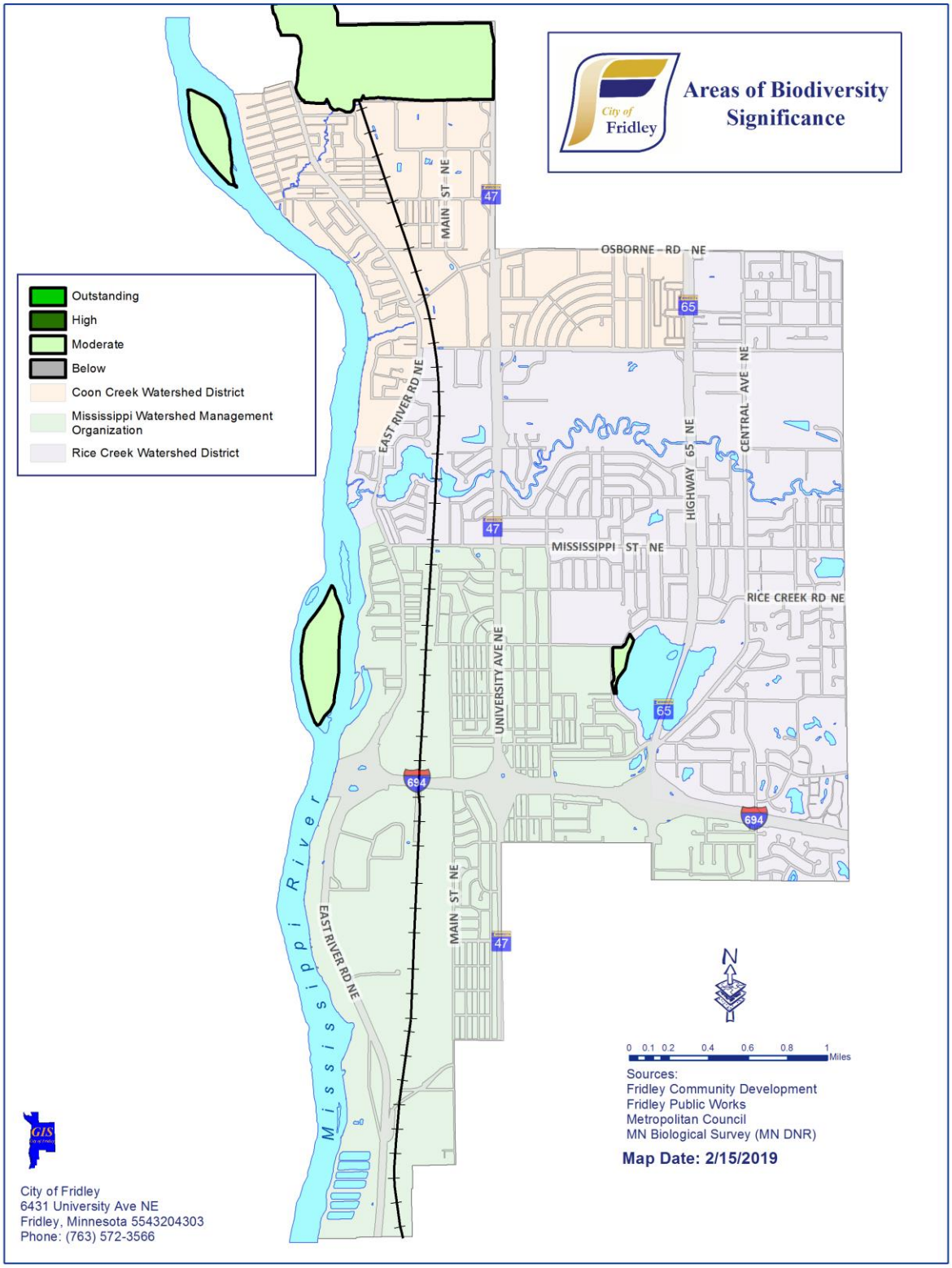


Figure 7. Surface Water Features

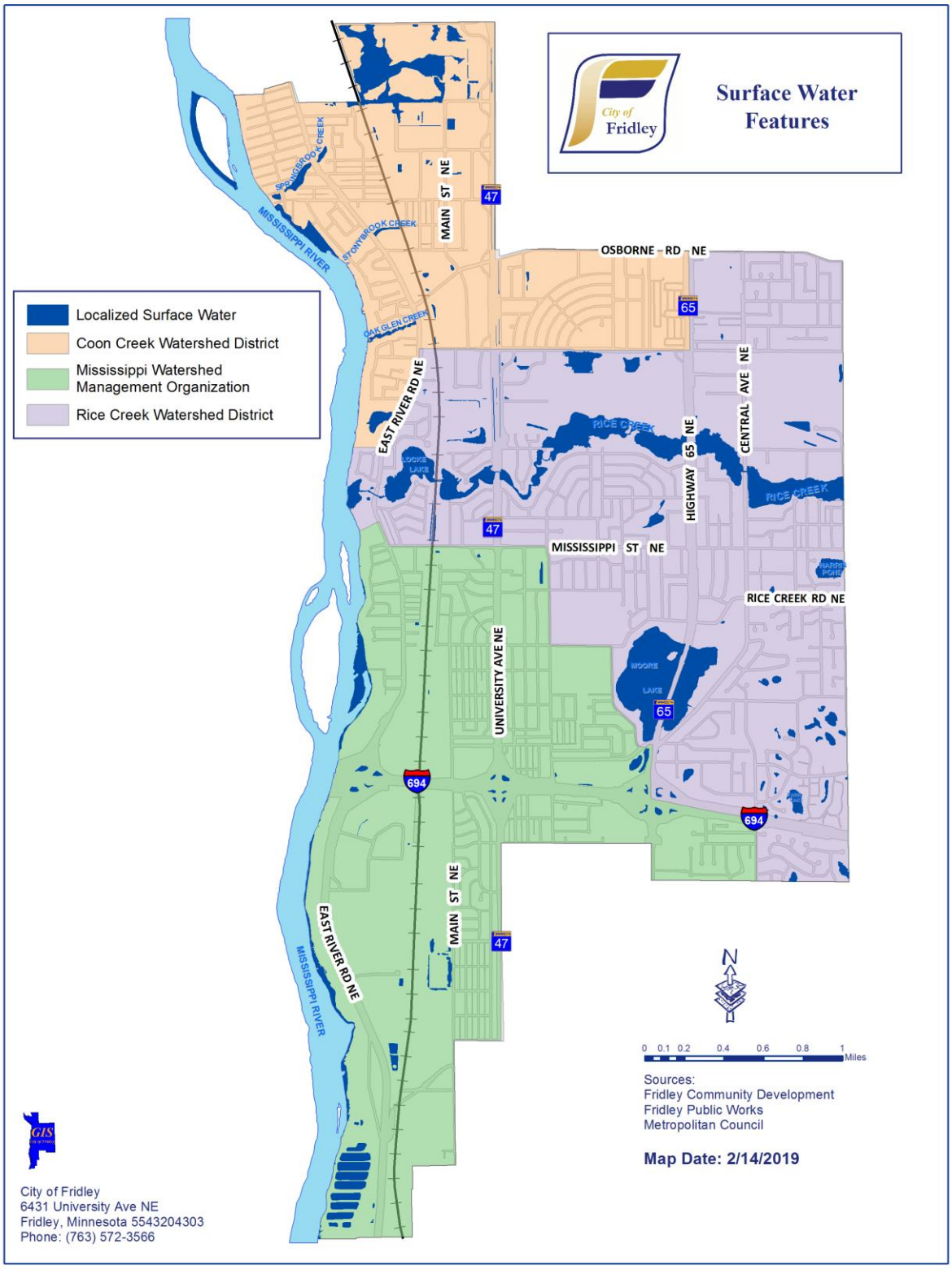


Figure 8. Watershed Organizations

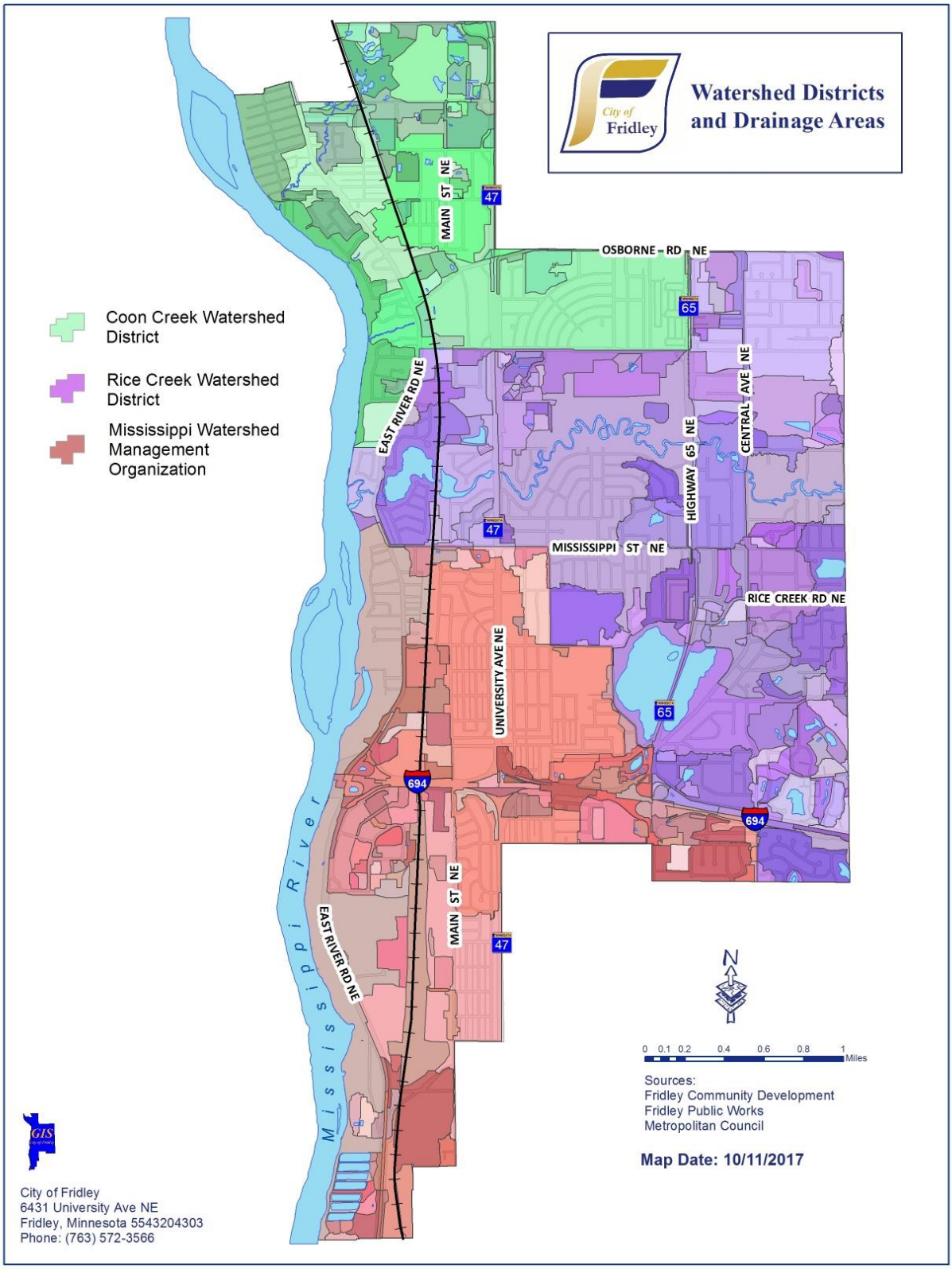


Figure 9. Coon Creek Watershed Drainage Areas

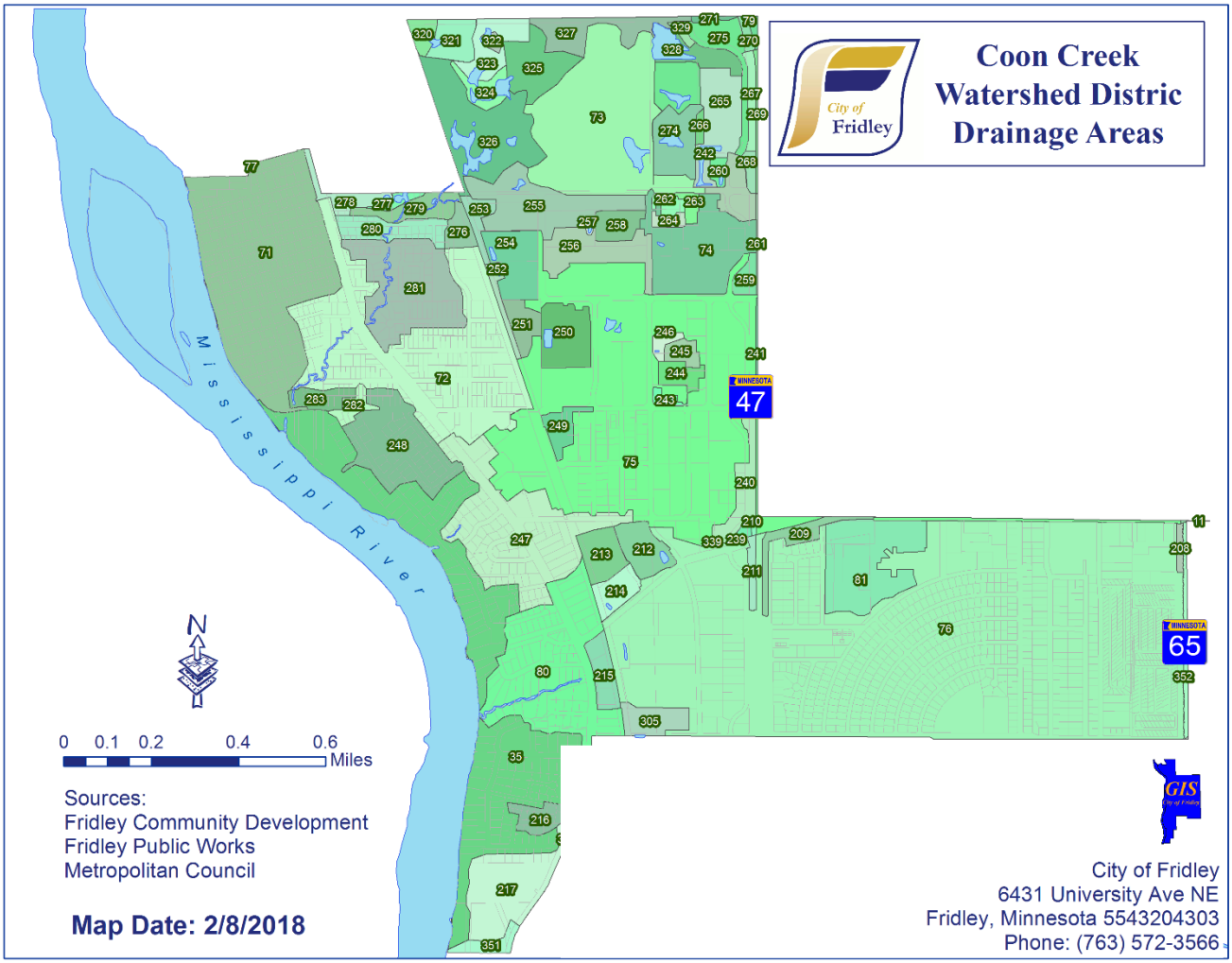


Figure 10. Rice Creek Watershed Drainage Areas

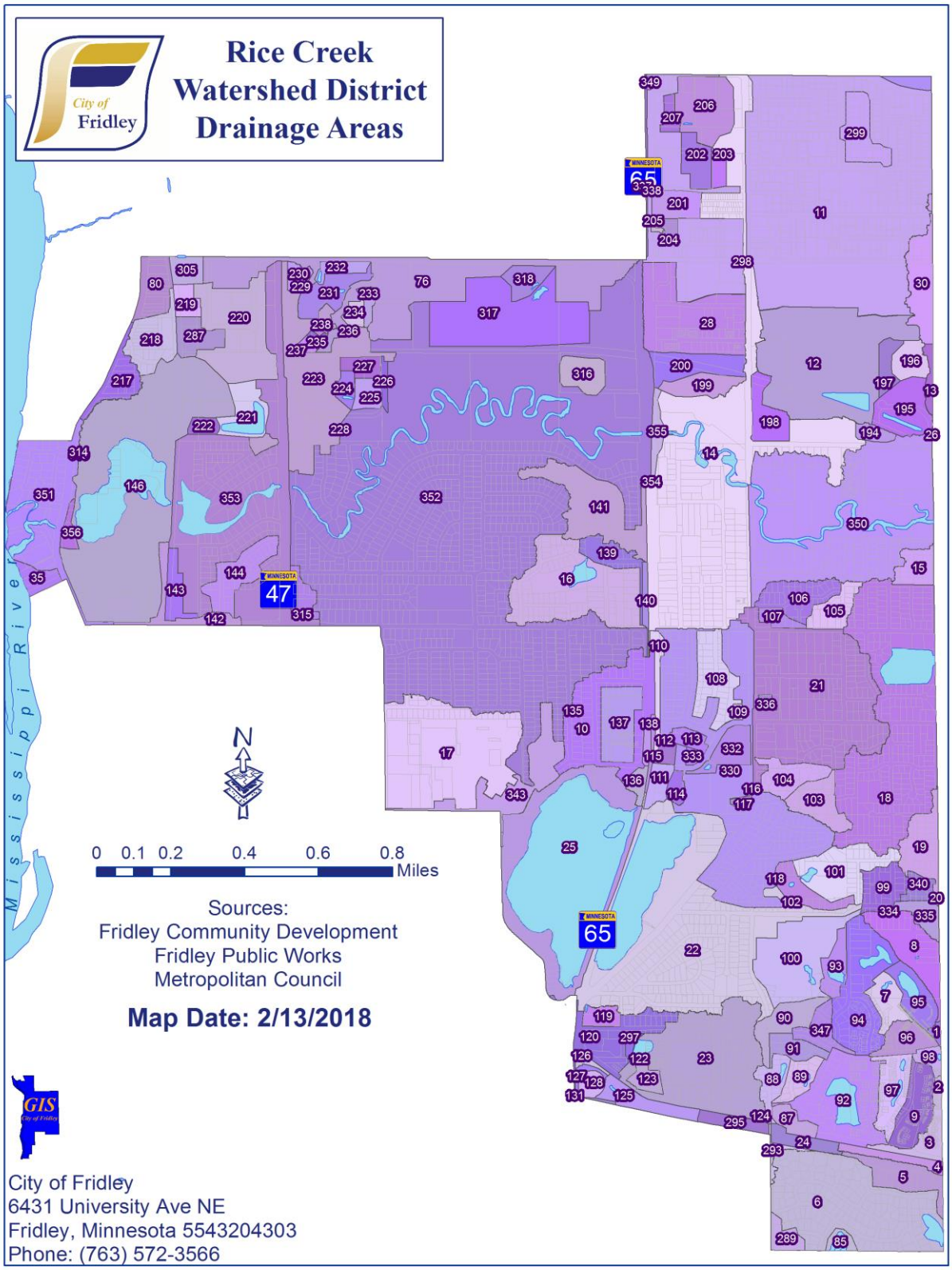


Figure 11. Mississippi Watershed Drainage Areas

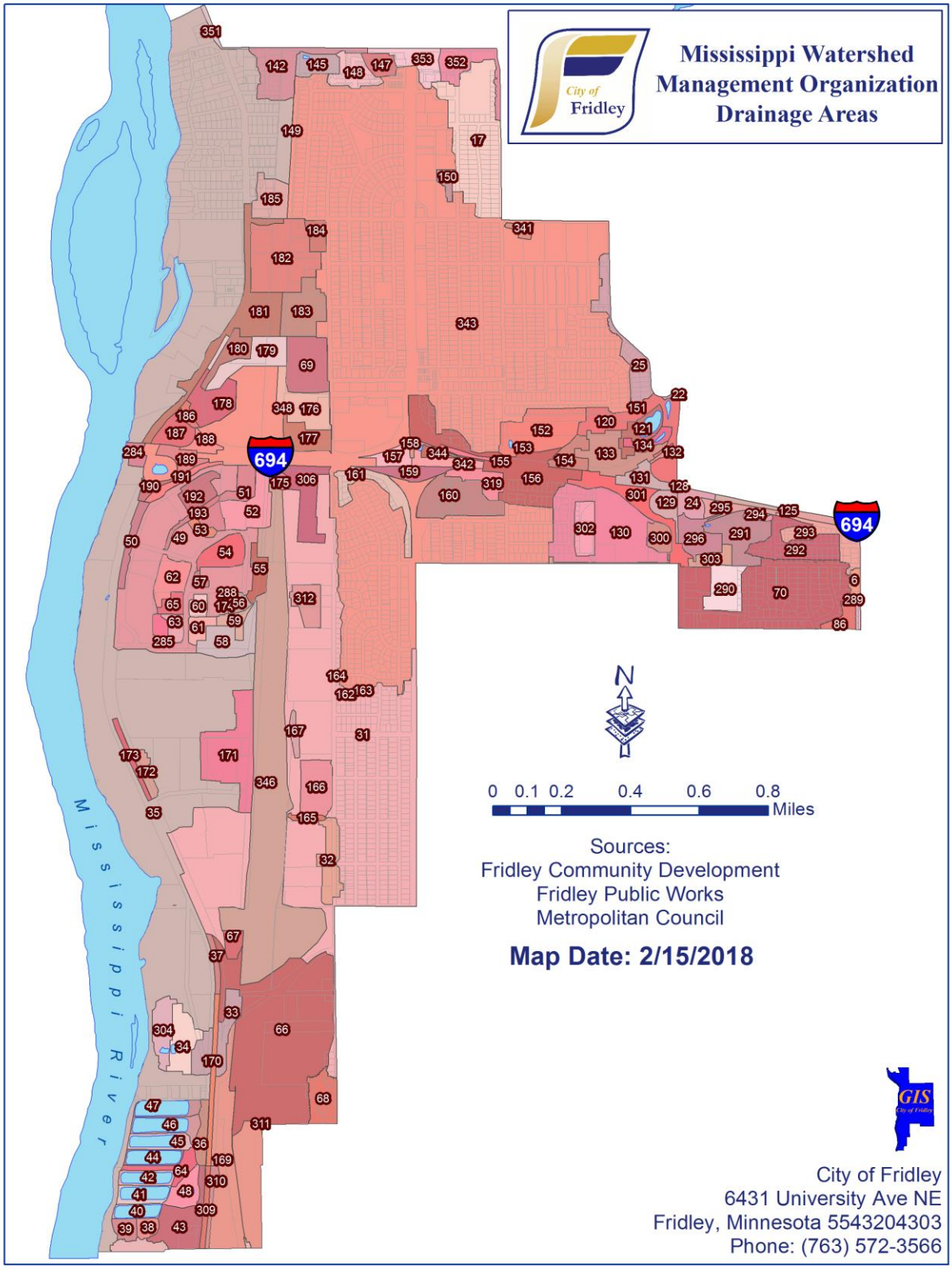


Figure 12. Wetlands, Floodplains, and Natural Drainage Routes

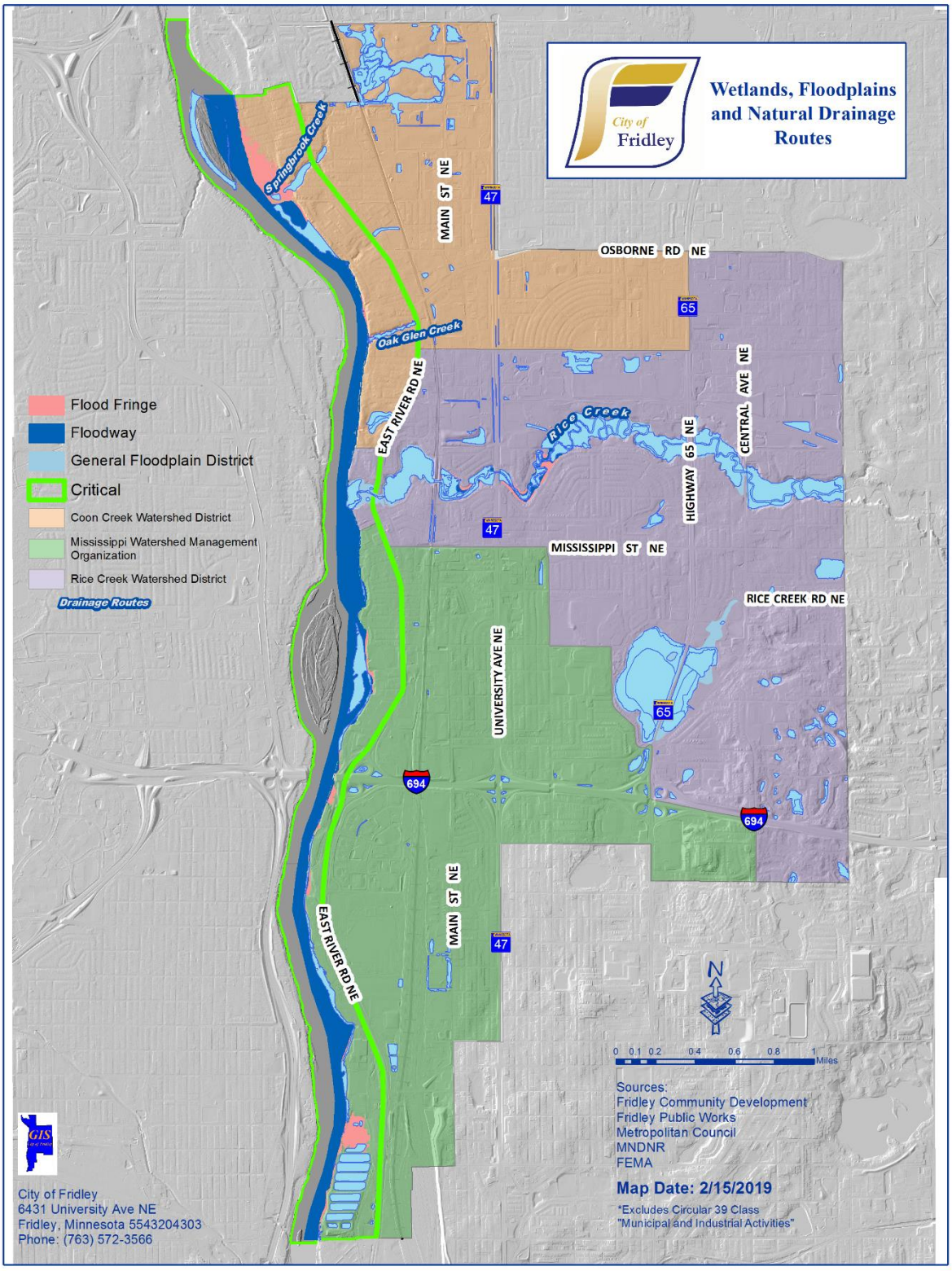


Figure 13. Parks

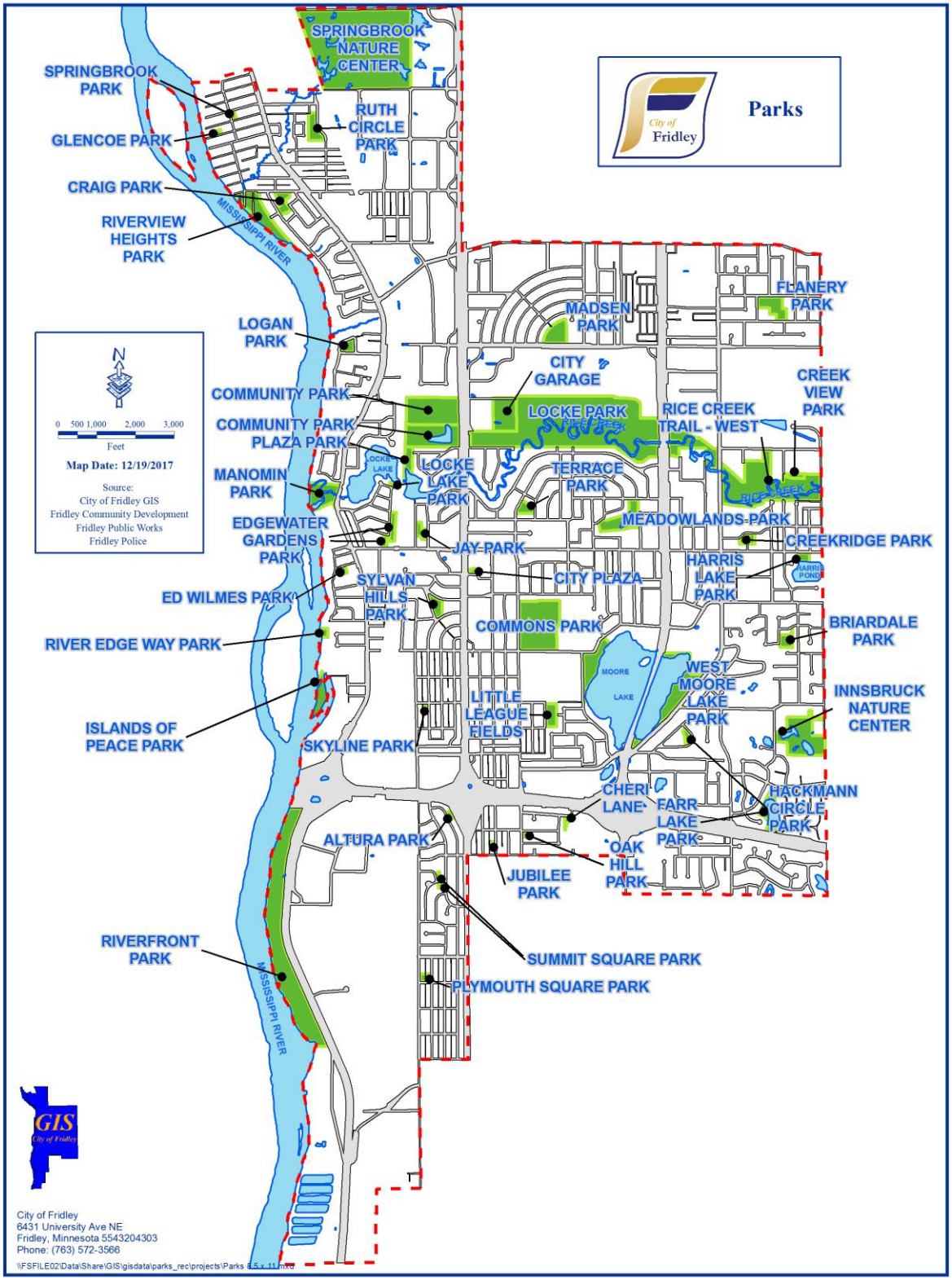


Figure 14. Stormwater Infrastructure

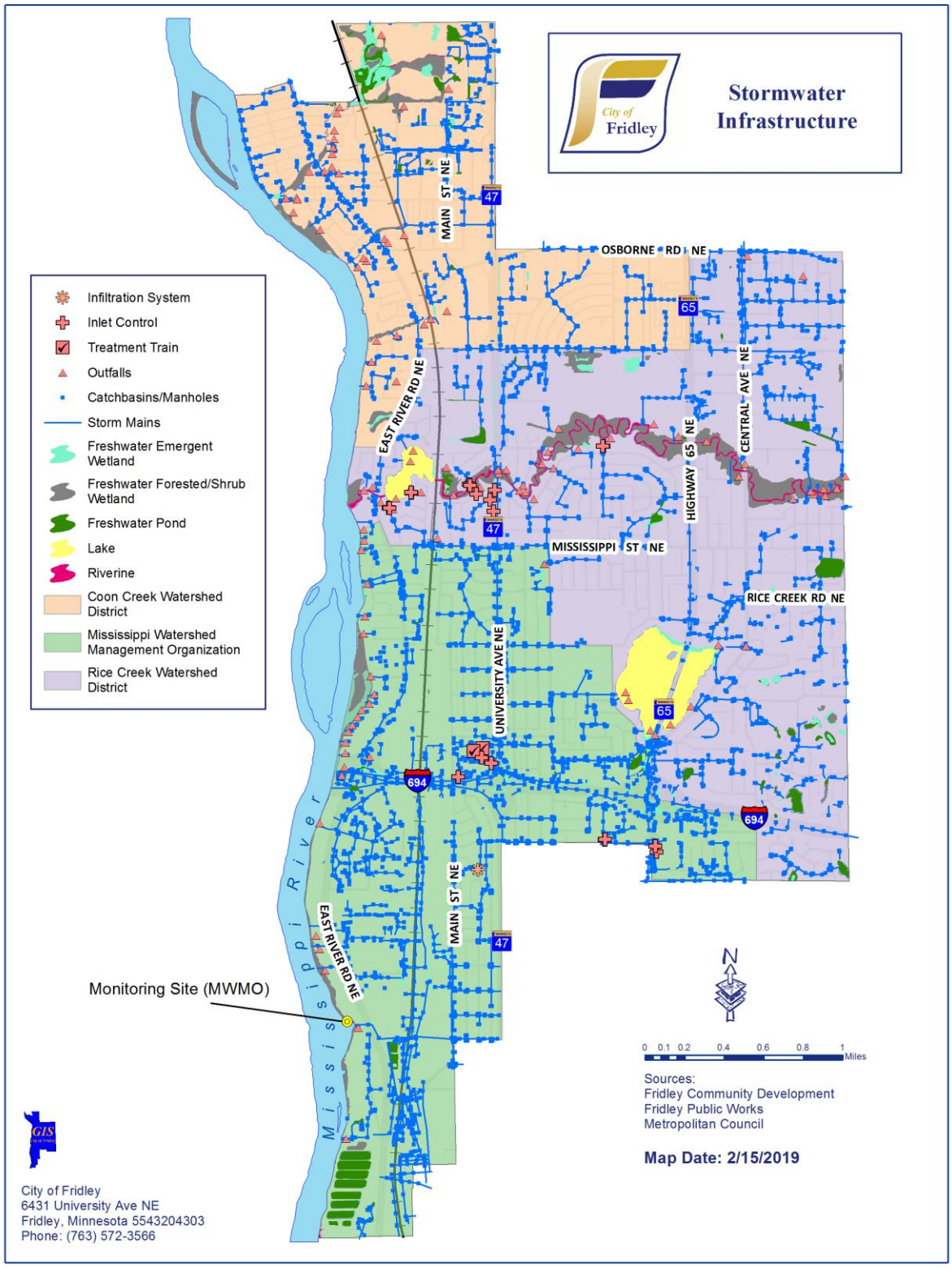


Figure 15. Rain Garden Locations

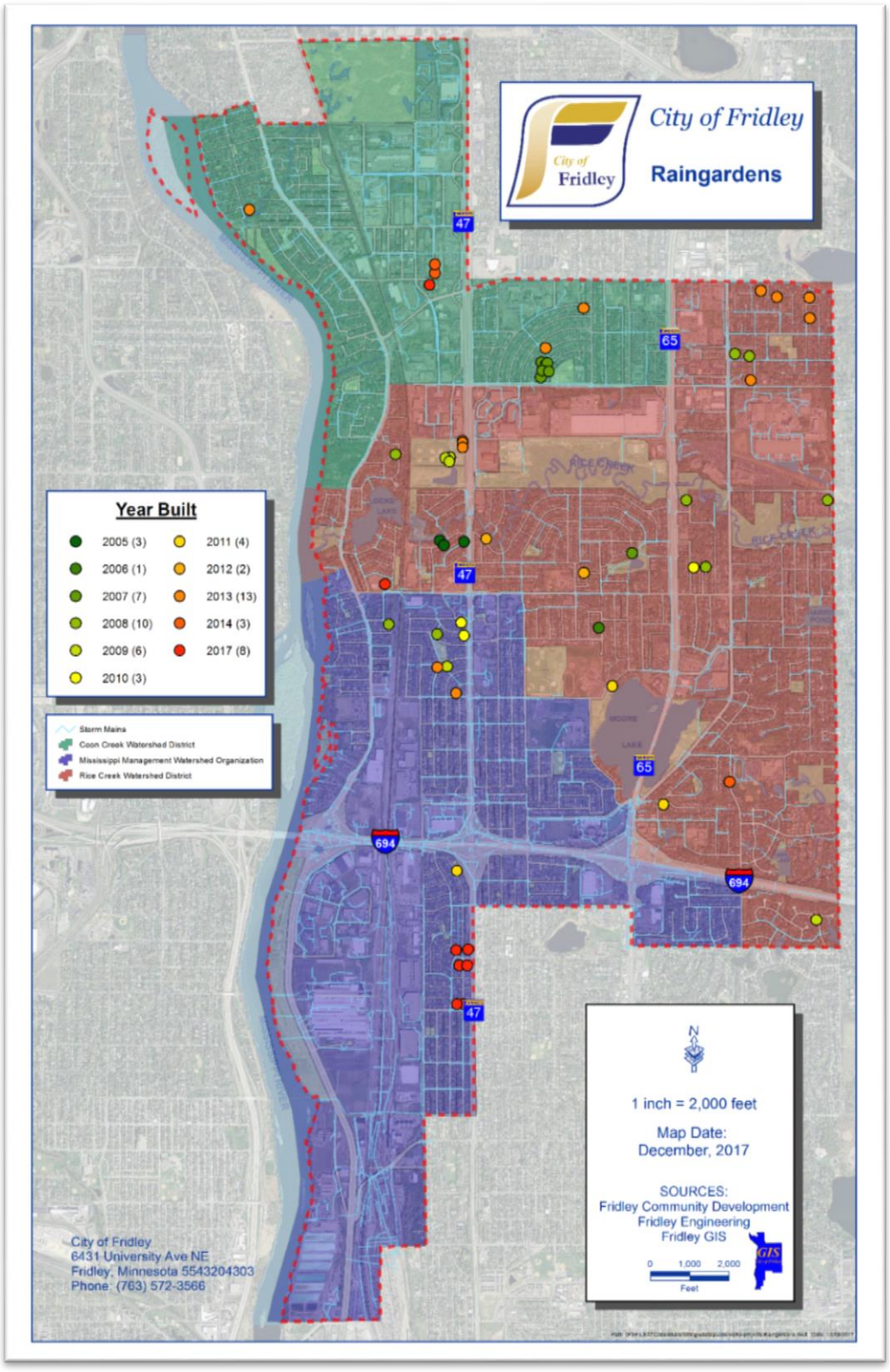


Figure 16. Surface Water and Groundwater Interaction

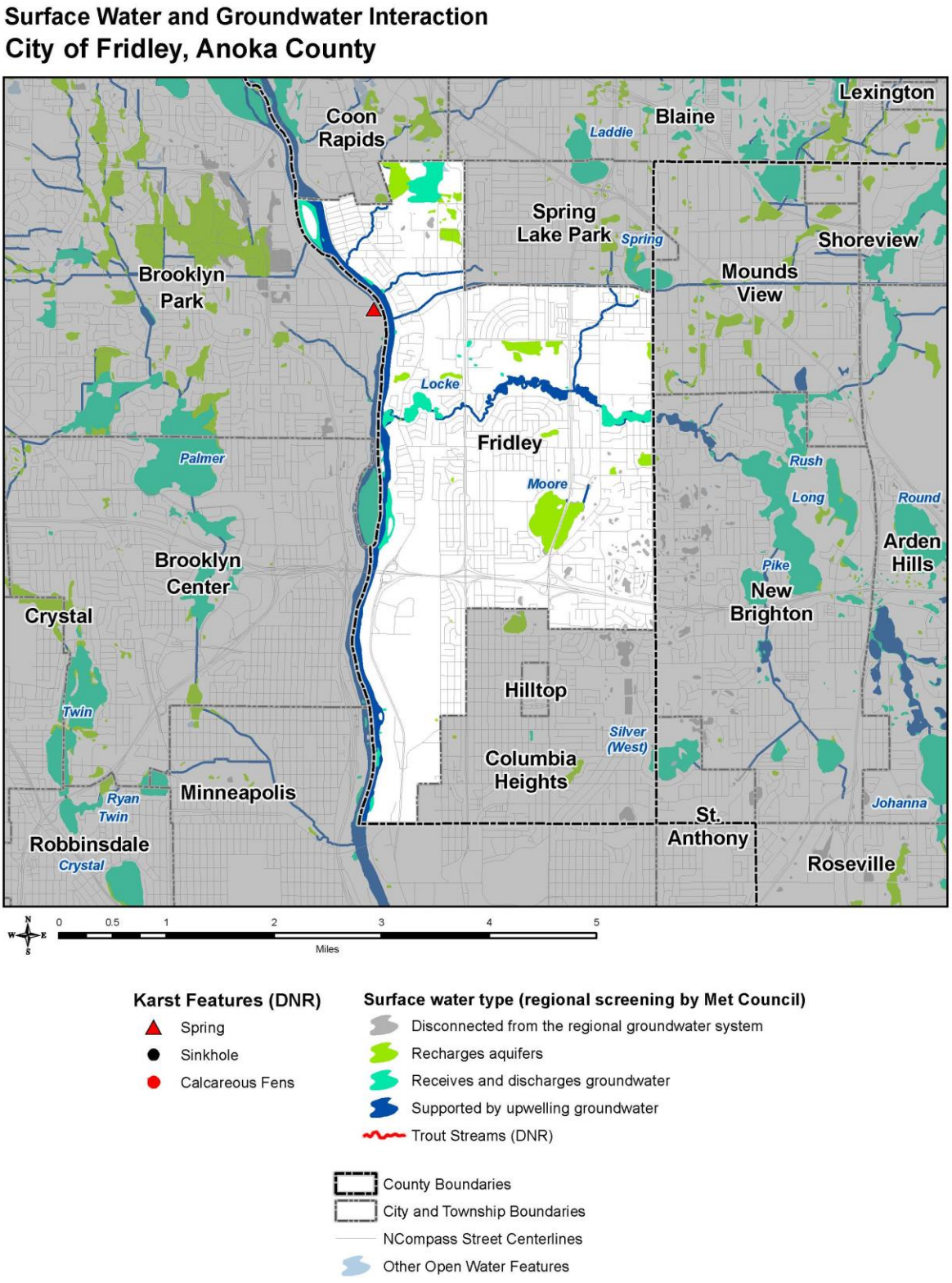
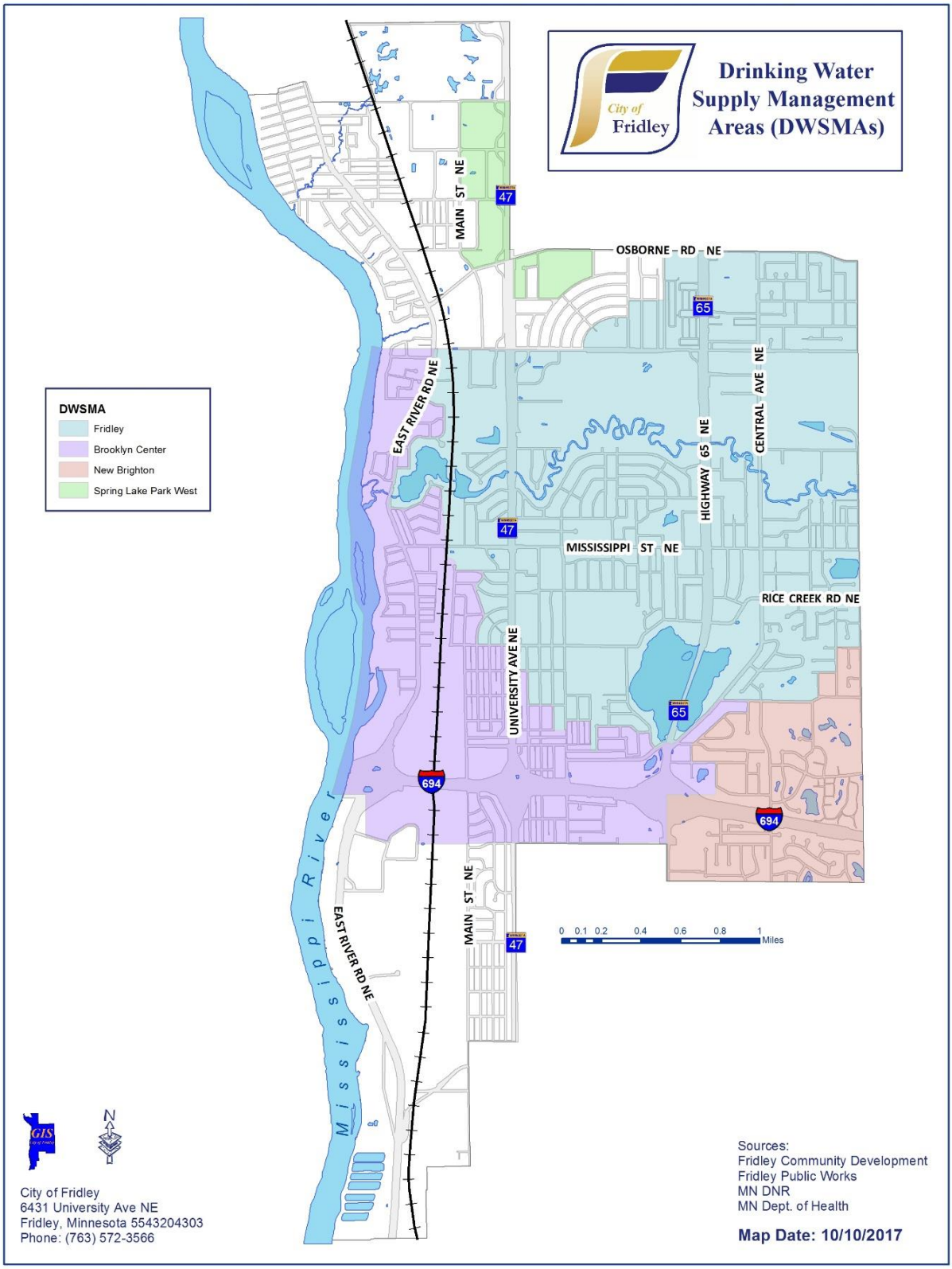


Figure 17. Drinking Water Supply Management Areas



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Appendix B

City of Fridley

1993 Wetland

Inventory

City of Fridley Wetland Inventory

Planning

Traffic Engineering

Landscape Architecture

Civil Engineering

Land Surveying

Environmental Studies

Prepared for:

CITY OF FRIDLEY

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February 1994

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BCDAC

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EXECUTIVE SUMMARY

Jurisdictional wetlands located within the City of Fridley were inventoried during July through December, 1993, to establish baseline data to be used by the City in local administration of the Minnesota Wetland Conservation Act of 1991. A total of 59 jurisdictional wetlands were identified within the City, including 11 basins that were not shown on National Wetland Inventory (NWI) mapping. Twenty of the wetlands shown on NWI mapping within the City were found not exist in the field. Storm water basins and ditches that had been excavated from upland were not identified as jurisdictional wetlands for purposes of Wetland Conservation Act administration by the City of Fridley. Information on the size, watershed, classification, and inlet/outlet characteristics of each wetland was tabulated to provide data for use in determining sequencing requirements and wetland replacement ratios. Thirty-five of the 59 basins fall within the Rice Creek Watershed District; the remaining 24 basin are located in the Six Cities Watershed Management Organization. The inventory included 6 DNR protected waters or wetlands and 3 DNR protected watercourses. The status of inventoried basins with respect to U.S. Army Corps of Engineers regulations under the Federal Clean Water Act is discussed. However, applicants are cautioned to confirm the regulatory status of each basin with the Corps of Engineers and local watershed authority before planning or requesting approval for any regulated activity.

METHODOLOGY

Existing wetland maps were reviewed in combination with half-section (1" = 200' scale) aerial photographs to identify areas needing a field review to delineate and verify wetland boundaries. In addition to National Wetland Inventory maps and Protected Waters Inventory maps, Metropolitan Mosquito Control District maps were reviewed to identify potential wetland locations. The Metropolitan Mosquito Control District maintains maps on 1" = 660' scale (8" = 1 mile) aerial photograph bases (dated 1989 to 1992) that show potential insect breeding areas and are useful in identifying potential wetland locations.

Although soils mapping would typically have been reviewed during this phase as well, the Anoka County Soil Survey shows that soils were not mapped in the Fridley area. The U.S. Soil Conservation Service confirmed that soil classifications were not determined for the southern extension of Anoka County. Thus, *soils information available for this area was not sufficient to determine the presence or absence of hydric soils.*

Wetland locations were verified in the field using the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* (Federal Interagency Committee for Wetland Delineation, 1989). Jurisdictional wetland boundaries were mapped on 1" = 200' scale aerial photographs. Flight dates for photographs used ranged from March, 1981 to April, 1993. Most photographs were dated May, 1989. Wetlands were classified according to *Wetlands of the United States* (U.S. Fish and Wildlife Service Circular 39;

Shaw and Fredine, 1971) and *Wetlands and Deepwater Habitats of the United States* (FWS/OBS Publication 79/31; Cowardin et al. 1979). It was necessary to determine Cowardin as well as Circular 39 classifications because, although the Circular 39 system is more broadly understood, the administrative rules of the Wetland Conservation Act use abbreviated Cowardin classifications.

Additional information collected during wetland site visits included predominant vegetation species, water source, inlet/outlet characteristics, evidence of past degradation or partial drainage, and unique natural features. Data were recorded on standard data sheets, which were prepared to ensure that data would meet the needs of the City. Wetlands classified as protected waters by the Minnesota DNR were noted.

Each basin was assigned an identification number based on its location within the City. The system used to assign basin identification numbers is the same system used in PID (property identification) numbers, which codes the basin location to the nearest 40 acres. Identification numbers are 10-digit numbers conforming to the following formula:

Section-Township-Range-Quarter quarter section-sequence within each quarter quarter.

The system used to number quarter quarters of each section is illustrated below:

Quarter quarter numbering system used in ID numbers of wetland basins

NW of NW	NE of NW	NW of NE	NE of NE
22	21	12	11
SW of NW	SE of NW	SW of NE	SE of NE
23	24	13	14
NW of SW	NE of SW	NW of SE	NE of SE
32	31	42	41
SW of SW	SE of SW	SW of SE	SE of SE
33	34	43	44

It should be clarified that the boundaries of each wetland basin were not "delineated" in the true sense of the word during each site visit. That is, the precise location of the wetland boundary (i.e., the limits of wetland vegetation, soils, and hydrology) was not determined for every 100-foot segment of wetland periphery, marked with construction stakes, and located by land surveyors. However, each basin was determined to meet hydrophytic vegetation and hydric soils criteria. While the wetland boundaries

identified during this inventory from aerial photographs are generally more reliable than wetland mapping efforts such as National Wetland Inventory (NWI) maps, which lack ground truthing, this wetland inventory has not been verified to the extent necessary to support wetland permitting without further confirmation. The boundaries provided on the city wetland maps are approximate and therefore are not suitable for direct use in wetland permitting. All wetland boundaries **must** be staked, surveyed, and verified with the relevant regulatory agencies prior to submitting wetland permit applications.

RESULTS

A total of 59 wetland basins were identified within the City of Fridley. Of the 59 basins, 11 were not shown on National Wetland Inventory mapping. Conversely, 20 of the wetlands shown on National Wetland Inventory (NWI) mapping were found not to exist in the field. Some of these NWI basins appeared to represent errors in interpretation of the aerial photograph used in NWI mapping. Included in such potential photo interpretation errors were ball fields at Totino Grace High School and the sand lots at Harris Lake and Summit Square Parks. Most of the NWI basins found not to exist probably did exist at one time, but were situated in areas that have undergone development.

Of the 59 basins, 19 were less than one-half acre in size. The size of each of these basins is provided in Table 1. Only 3 of the 59 basins were less than 4,356 square feet (0.1 acre) in size and could potentially be filled or drained under the Wetland Conservation Act without the applicant providing documentation on minimization and avoidance. However, wetland replacement would still be required for such fill or drainage, unless the wetland area affected is less than 400 square feet. None of the 59 basins were determined to be exempt under the Wetland Conservation Act. Although some basins were excavated from upland for a purpose other than wetland creation, such as storm water retention, these basins were recorded as storm water basins rather than jurisdictional wetlands for purposes of administration of the Wetland Conservation Act by the City of Fridley. *It should be noted, however, that other jurisdictions such as the U.S. Army Corps of Engineers and the Rice Creek Watershed District would need to independently verify the exempt or nonjurisdictional status of each storm water basin prior to any proposed modification.*

Storm Water Basins and Road Ditches

Under the permanent program rules of the Wetland Conservation Act, Exemption 10 specifies that: "Wetlands may be drained or filled if the landowner can show that the wetland was created solely by actions the purpose of which was not to create the wetland and were approved, permitted, funded, or overseen by a public entity. Impoundments or excavations constructed solely for the purpose of effluent treatment, storm water retention, soil and water conservation practices, and water quality improvements, and not as part of a compensatory wetland mitigation process that may, over time, take on wetland characteristics, are also exempted."

In other words, storm water drainage basins and ditches that were excavated outside of jurisdictional wetlands do not fall under the jurisdiction of the Wetland Conservation Act, even though they may meet all three wetland delineation parameters (i.e., wetland hydrology, hydrophytic vegetation, and hydric soils). The application of this exemption is particularly clear in cases where the storm water basin or ditch was created as part of a public project.

Based on the applicability of Exemption 10, storm water ponds, roadside ditches, and open storm water ditches located in Fridley were not identified as jurisdictional wetland in cases where the basin or ditch had clearly been excavated from upland. However, a small number of natural wetlands included in this inventory appear to have been modified to serve water quality and quantity functions almost exclusively (i.e., ID #s 13-30-24-34-01 and 23-30-24-14-01). Because these basins appear on NWI maps, whereas other excavated storm water basins do not, they were assumed to be natural wetlands prior to modification and therefore were included as Wetland Conservation Act jurisdictional wetlands.

Similarly, the U.S. Army Corps of Engineers Rules under the Federal Clean Water Act *generally do not* consider storm water basins and ditches created for purposes other than wetland replacement to be "Waters of the United States" or jurisdictional wetlands. Waters of the United States specifically exclude "Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing (33 CFR 328.3 (c)). To the extent that storm water basins are created on upland for purposes of removing sediment and pollutants from runoff, this exclusion would apply. *However, because the Corps reserves the right to make case-by-case determinations when considering whether specific basins are "Waters of the United States," written confirmation of no jurisdiction must be sought from the Corps before any modifications to storm water basins are conducted. The same confirmation procedure for nonjurisdictional basins needs to be followed with other jurisdictions, such as the Rice Creek Watershed District.*

PUBLIC VALUE, SEQUENCING, AND WETLAND REPLACEMENT RATIOS

The wetland replacement matrix from the Wetland Conservation Act rules (and the ancillary formulas for inlet/outlet characteristics and hydrologic units) provide ratios for "out-of-kind" and "off-site" wetland replacement. This report provides all of the elements required by the Wetland Conservation Act rules for determining wetland replacement needs. These include the: (1) abbreviated Cowardin wetland classification, (2) hydrologic unit, and (3) inlet/outlet characteristics. These data have been compiled for all identified wetlands to enable the City to readily apply the wetland replacement matrix and formulas to any project for which wetland replacement is necessary.

The Wetland Conservation Act rules set three levels of sequencing, which are based on the size of the wetland area to be filled or drained. Wetland fills of less than 400 square

feet are considered de minimis and therefore eligible for a no-loss determination under the Act. For wetland fills of 400 to 4,356 square feet (i.e., < 0.1 acre), the City may make a sequencing determination without requiring a project justification submitted by the applicant. Any project proposing more than 0.1 acre of wetland fill is subject to full sequencing under the Act.

The U.S. Army Corps of Engineers' Regional Conditions to Nationwide Permit 26 apply the de minimis determination to fills of less than one-half acre in isolated basins. In order to assist the City in determining acceptable sequencing and the regulatory status of each basin with respect to Corps of Engineers regulations, this report provides a size determination for all wetland basins encompassing one-half acre or less.

Wetland Replacement Ratios

The ratio of wetland replacement required for any activity that fills or drains wetland depends on: (1) the replacement wetland type in relation to the impacted wetland type, (2) the location of the replacement wetland with respect to the impacted wetlands, and (3) the inlet and outlet characteristics of each wetland. As shown in the following sections, the replacement ratio increases with the divergence between the classification, location, and inlet/outlet characteristics of the impacted and replacement wetland. Presumably, the intent of the Minnesota Board of Water and Soil Resources in devising this system was to ensure that replacement wetlands provide public value at least equal to impacted wetlands.

The required wetland replacement ratio for out-of-kind or out-of-watershed wetland replacement during the permanent program shall be 2 to 1 *or* the sum of the *wetland type ratio* plus the *hydrologic unit ratio* plus the *inlet and outlet characteristics ratio, whichever is greater.* For projects involving partial wetland drainage or partial restoration, see pages 68-70 of the Wetland Conservation Act Final Rule (dated June 6, 1993) for procedures for calculating the required wetland replacement.

Wetland Type Ratio

Abbreviated Cowardin classifications for each inventoried basin are provided in Table 1. The wetland classification equivalency chart and the wetland type replacement matrix, which were taken from the Wetland Conservation Act rules, are provided on the following pages.

Hydrologic Unit Ratio

For the purpose of the Wetland Conservation Act, the entire City of Fridley is in the Mississippi River (Metro) watershed. This is shown as Hydrologic Unit 20 on the State of Minnesota Watershed Boundaries map contained in the Wetland Conservation Act rules. *Please note that hydrologic unit boundaries do not correspond to the boundaries of Watershed Districts and Watershed Management Organizations.* Even though the City

Wetland Classification Equivalency Chart (Adapted from Wetland Conservation Act Rules)

Cowardin Class or Subsystem & Water Regime	Abbreviated Cowardin	Approximate Circular 39 Equivalent	
PEMA	PEA (Palustrine emergent temporarily flooded)	1	Seasonally flooded basin
PEMB	PEB (Palustrine emergent saturated)	2	Wet meadow
PEMC	PEC (Palustrine emergent seasonally flooded)	3	Shallow marsh
PEMD	PEC	3	
PEME	PEC	3	
PEMF	PEF (Palustrine emergent semipermanently flooded)	4	Deep marsh
PEMG	PEF	4	
PEMH	PEF	4	
PEMJ	PEA	1	
PEMK	PEF	4	
PEMW	PEA	1	
PEMY	PEB	2	
PEMZ	PEF	4	
PEMU	PEF	4	
PSSA	PSA (Palustrine scrub/shrub temporarily flooded)	6	Shrub swamp
PSSB(except PSS3B)	PSB (Palustrine scrub/shrub saturated)	6	
PSS3B	PSX (Palustrine scrub/shrub broad-leaved evergreen)	8	Bog
PSSC	PSC (Palustrine scrub/shrub seasonally flooded)	6	
PSSD	PSC	6	
PSSE	PSC	6	
PSSF	PSC	6	
PSSG	PSC	6	
PSSH	PSC	6	
PSSJ	PSA	6	
PSSK	PSC	6	
PSSW	PSA	6	
PSSY	PSB	6	
PSSZ	PSC	6	
PSSU	PSC	6	
PFOA	PFA (Palustrine forested temporarily flooded)	1L	Bottomland hardwoods
PFOB	PFB (Palustrine forested saturated)	7	Wooded swamp
PFOC	PFC (Palustrine forested seasonally flooded)	7	
PFOD	PFC	7	
PFOE	PFC	7	
PFOF	PFC	7	
PFOG	PFC	7	
PFOH	PFC	7	
PFOJ	PFA	1	
PFOK	PFC	7	
PFOW	PFA	1	
PFOY	PFB	7	
PFOZ	PFC	7	
PFOU	PFC	7	
PML (all)	PSX (Palustrine moss lichen)	8	
PAB (all)	PA (Palustrine aquatic bed)	5	Open water
PUB (all)	PU (Palustrine unconsolidated bottom)	5	
PRB (all)	PU	5	
POW (all)	PU	5	
PUS (all)	PU	5	
L1 (all)	L1 (Lacustrine limnetic)	5*	
L2 (all)	L2 (Lacustrine littoral)	5	
R2 (all)	R2 (Riverine lower perennial)	**	
R3 (all)	R3 (Riverine upper perennial)	**	
R4 (all)	R4 (Riverine intermittent)	**	

* Circular 39 does not classify deep water habitats as a wetland type, but for the purpose of this table, the classification can be approximated as Type 5.

** Circular 39 does not provide classifications for riverine wetlands.

Impacted Wetland Type	Replacement Wetland Type																	
	PFA	PFB	PFC	PSA	PSB	PSC	PSX	PEA	PEB	PEC	PEF	PA	PU	L1	L2	R2	R3	R4
PFA	1.0	1.5	1.5	2.0	1.5	2.0	3.0	3.0	1.5	1.0	1.0	1.5	1.5	1.5	1.5	2.0	1.5	2.0
PFB	1.5	1.0	1.0	2.0	1.0	2.0	2.0	2.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	3.0	1.5	3.0
PFC	1.5	1.5	1.0	2.0	1.0	2.0	2.0	2.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	3.0	1.5	3.0
PSA	1.5	1.5	1.0	1.0	1.0	1.5	2.0	2.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	3.0	1.5	3.0
PSB	1.5	1.5	1.0	1.0	1.0	1.5	2.0	2.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	3.0	1.5	3.0
PSC	1.5	1.5	1.0	1.0	1.0	1.0	2.0	2.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	2.0	1.5	2.0
PSX	1.0	1.5	1.0	2.0	1.0	2.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	2.0	1.5	2.0
PEA	1.5	1.5	1.0	2.0	1.0	2.0	1.5	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	3.0	1.5	3.0
PEB	1.5	1.5	1.0	2.0	1.0	2.0	2.0	2.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	3.0	1.5	3.0
PEC	1.5	1.5	1.5	3.0	3.0	3.0	3.0	3.0	1.5	1.0	1.0	1.5	1.5	1.5	1.5	3.0	1.5	3.0
PEF	1.5	1.5	1.5	3.0	3.0	3.0	3.0	3.0	1.5	1.0	1.0	1.5	1.5	1.5	1.5	3.0	1.5	3.0
PA	1.5	1.5	1.5	3.0	3.0	3.0	3.0	3.0	1.5	1.0	1.0	1.0	1.0	1.0	1.5	2.0	1.0	2.0
PU	1.5	1.5	1.5	3.0	3.0	3.0	3.0	3.0	1.5	1.0	1.0	1.0	1.0	1.0	1.5	2.0	1.0	2.0
L1	1.5	1.5	1.5	3.0	3.0	3.0	3.0	3.0	1.5	1.0	1.0	1.0	1.0	1.0	1.5	2.0	1.0	2.0
L2	1.0	1.5	1.5	2.0	1.5	2.0	3.0	3.0	1.5	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	2.0
R2	1.5	1.5	1.5	3.0	3.0	3.0	3.0	3.0	1.5	1.0	1.0	1.0	1.0	1.0	1.5	1.0	1.0	1.5
R3	1.5	1.5	1.5	3.0	3.0	3.0	3.0	3.0	1.5	1.0	1.0	1.0	1.0	1.0	1.5	2.0	1.0	2.0
R4	1.5	1.5	1.5	3.0	3.0	3.0	2.0	2.0	1.5	1.0	1.0	1.0	1.0	1.0	1.5	1.0	1.0	1.0

of Fridley is split between the Rice Creek Watershed District and the Six Cities Watershed Management Organization, proposing to replace a wetland impacted in the Rice Creek Watershed District by constructing a replacement area in the Six Cities Watershed Management Organization would not increase the replacement ratio required under the Wetland Conservation Act because both areas are in the Mississippi River (Metro) watershed (i.e., hydrologic unit). However, this proposed activity would still fall under the jurisdiction of both the Rice Creek Watershed District and the Six Cities Watershed Management Organization, which may place further stipulations or conditions on approval. The Rice Creek Watershed District formerly had a policy discouraging wetland replacement across watershed boundaries, but the district recently dropped the policy in favor of adopting the Wetland Conservation Act permanent program rules.

When a wetland replacement area is to be located in a different hydrologic unit, as shown on the U.S. Geological Survey Hydrologic Unit Map for Minnesota, from the impacted wetland, the following ratios must be applied.

Location of Sites	Replacement Ratio
Within same watershed	0.0
Different watershed	0.1
Different accounting unit	0.3
Different subregion	0.5
Different region	1.0

Inlet and Outlet Characteristics Ratio

Inlet and outlet characteristics are identified for each delineated basin in Table 1. Because the location or existence of inlets and outlets is sometimes obscured by dense vegetation, field reviews were supplemented by reviewing the City of Fridley Storm Sewer System map to determine the inlet/outlet characteristics presented in Table 1. However, even with the review of the Storm Sewer System map, it was not *always* possible to determine whether a pipe leading to a certain basin was placed to function as an inlet or an outlet. If only one pipe led to the basin, it was assumed to function as a basin inlet. Basins having a storm sewer inlet but no discernable outlet were categorized as "Isolated." Although Wetland Conservation Act rule definitions for inlets and outlets, which are provided verbatim below, identify wetlands having an outlet but no inlet as "Tributary," basins with an "inlet" but no "outlet" are technically *undefined* by the Act. *Due to the uncertainty of inlet and outlet characteristics for certain basins, and the need to make certain assumptions during this study, an effort to confirm the inlet and outlet characteristics of each basin must be made when and if an application for alteration of the basin is received.*

The following definitions were taken directly form the BWSR Wetland Conservation Act Rules:

Riverine wetland means a wetland contained within the banks of a channel that may contain moving water or that forms a connecting link between two bodies of standing water.

Flow-through wetland means a wetland with both a well defined outlet and one or more well defined inlets, including tile systems, ditches, or natural watercourses.

Tributary wetland means a wetland with a well defined outlet, including tile systems, ditches, or natural watercourses, but without a well defined inlet.

Floodplain wetland means a wetland located in the floodplain of a watercourse, with no well defined inlets or outlets, including tile systems, ditches, or natural watercourses. This may include the floodplain itself when it exhibits wetland characteristics.

Isolated wetland means a wetland without well defined inlets or outlets, including tile systems, ditches, or natural watercourses.

Please note that this system does not provide a category for wetlands having a well defined inlet but no outlet. When such wetlands were encountered during this inventory, they were categorized as Isolated.

If the inlet and outlet characteristics of a replacement wetland would differ from those of an impacted wetland, the following ratios shall be applied.

Impacted Wetland	Replacement Wetland				
	Riverine	Flow-through	Tributary	Floodplain	Isolated
Riverine	0.0	0.2	0.4	0.6	1.0
Flow-through	0.2	0.0	0.4	0.6	0.8
Tributary	0.4	0.2	0.0	0.2	0.4
Floodplain	0.6	0.6	0.2	0.0	0.2
Isolated	1.0	0.8	0.4	0.2	0.0

FUTURE OUTLOOK

The City may wish to have its wetland map approved by its Technical Evaluation Panel (TEP) under the Wetland Conservation Act. Such approval would enable the City to make independent no-net-loss determinations without TEP involvement. Although TEP involvement is optional and at the discretion of the Local Government Unit, any party involved in a wetland determination, such as the City, the landowner, or a TEP member, can request the involvement of the TEP. If the TEP approves a City wetland map, and the map is incorporated into a City ordinance, the TEP would no longer be involved in wetland determinations within the City (see Minn. Rules 8420.0240). In the City of Fridley, the TEP includes a designee of the City Engineer, Jim Haertel of the Board of Water and Soil Resources, and a representative of the Anoka Soil and Water Conservation District (e.g., Chris Lord). *Although a number of municipalities have completed wetland inventories, no City wetland mapping project to date has received TEP approval.*

OTHER REGULATORY JURISDICTIONS

The relationship of each inventoried basin to other regulatory jurisdictions is summarized in Table 2. These jurisdictions include local watersheds, the Minnesota DNR, and the U.S. Army Corps of Engineers. The status of these jurisdictions is discussed below.

Local Watershed Authorities

Of the 59 basins inventoried, 35 fall within the jurisdiction of the Rice Creek Watershed District and 24 fall within the Six Cities Watershed Management Organization. *All applicants for wetland certifications under the Wetland Conservation Act should be advised that their proposals must also comply with local watershed rules.* It should be

recognized that the geographic limits of the Rice Creek Watershed District and the Six Cities Watershed Management Organization are in no way related to the Mississippi River Metro Hydrologic Unit, which is the local watershed unit cited in the Wetland Conservation Act rules. Whereas the City of Fridley is split between the Rice Creek Watershed District and the Six Cities Watershed Management Organization, the entire city falls within the Mississippi River Metro Hydrologic Unit. Although the Rice Creek Watershed District has a local wetland ordinance, the Six Cities Watershed Management Organization does not.

Minnesota DNR Protected Waters, Wetlands, and Watercourses

Wetlands within the city that are included in the DNR protected waters inventory include six protected wetlands or waters, and three protected watercourses. Characteristics of these basins and watercourses are summarized in Table 3. It should be recognized that Wetland Conservation Act jurisdiction is mutually exclusive from DNR jurisdiction. In other words, wetlands protected under the Wetland Conservation Act include only those wetlands located above the Ordinary High Water Level (OHWL) of DNR protected wetlands or waters, or outside the banks of the channel of DNR protected watercourses for those basins that include DNR protected wetlands, waters, or watercourses. All wetlands that are geographically distinct from DNR protected wetlands, waters, and watercourses fall under the jurisdiction of the Wetland Conservation Act.

Although the city could adopt an ordinance that claims jurisdiction over DNR protected wetlands and waters as well as Wetland Conservation Act wetlands, the benefits of such additional regulation would likely be negligible. DNR protected waters rules specifically prohibit filling in DNR protected wetlands and waters to created upland except where: (1) the project involves construction of a roadway or pathway proposed by a federal, state, or local government agency and lack of a permit would restrict the project and create a major conflict with public purposes or interests, (2) there are no feasible or practical alternatives to the project that would have less environmental impact, and (3) the public need for the project rules out the no-build alternative. In addition, applications for work in DNR protected waters or wetlands are routinely distributed to local governments, including cities, for comments before permits are issued.

Corps of Engineers Section 404 Jurisdiction

All of the wetlands identified in this inventory fall within the jurisdiction of the U.S. Army Corps of Engineers under Section 404 of the Federal Clean Water Act. While the definition of Waters of the United States, which are regulated under the Clean Water Act, generally excludes non-tidal drainage and irrigation ditches and basins excavated on dry land (i.e., storm water basins), *the Corps reserves the right the to determine whether wetlands fall under their jurisdiction on a case by case basis. Therefore, confirmation of no jurisdiction should be sought from the Corps before any activity*

affecting storm water basins or open storm sewer ditches is undertaken. Because the Corps jurisdiction has recently been expanded under the Tulloch Rule, which took effect on September 24, 1993 (33 CFR Parts 323 and 328), to include mechanized land clearing, ditching, channelization, or other excavation activities that degrades or destroys wetlands, confirmation should be sought from the Corps regardless of whether the activity proposed involves fill or excavation.

The regional conditions to Nationwide Permit 26 (NWP 26) (33 CFR 330.5 (a) (26)) allow up to 0.5 acre of fill in *isolated* basins under Corps jurisdiction without notification to other federal and state agencies and without wetland replacement. For fill or adverse modifications (potentially including excavation) involving between 0.5 and 3 acres of fill in *isolated* basins, the Corps would require wetland replacement, documentation on avoidance and minimization, and notification to the Minnesota Pollution Control Agency (MPCA), the U.S. Fish and Wildlife Service, the U.S. Environmental Protection Agency, the State Historic Preservation Office, and the Minnesota DNR. A discretionary individual permit may be required for any project affecting between 0.5 and 3 acres in *isolated* basins. Any fill or adverse modification affecting over 3 or more acres of wetland would automatically require an individual permit from the Corps, which would be issued only after a public notice period, demonstration of impact avoidance and minimization to the greatest extent possible, and commitment to carry out a wetland replacement plan. Individual Section 401 Water Quality Certification from the Minnesota Pollution Control Agency is necessary for any project requiring an individual Corps permit.

The last three columns in Table 2 identify the status of each basin under Corps of Engineers regulations. *Please recognize that the status of each basin under Corps regulations, as provided herein, is tentative, based on certain assumptions, and has not been reviewed by or received the concurrence of Corps personnel. It is essential that Corps confirmation of the regulatory status of each basin identified herein be obtained before any regulated wetland activity is planned or submitted to the Corps for approval.* All but 5 of the 59 basins are "above the headwaters" and eligible for NWP 26 applicability by the Corps. Basins for which the median annual outflow is 5 cubic feet per second (cfs) or greater are considered below the headwaters and are not eligible for NWP applicability. These include the Mississippi River, Rice Creek, Locke Lake, and the outlet from Springbrook Nature Center, including associated wetlands. Although flow rates were not measured in field, we have assumed that the outlet from Springbrook Nature Center has a median flow rate of at least 5 cfs. We have assumed that other creeks draining to the Mississippi (Stonybrook and Oak Glen Creek; ID # 03-30-24-43-01 and 10-30-24-13-01) have flow rates less than 5 cfs. Ten of the 59 basins are listed as "adjacent" under Corps regulations. These basins are adjacent to and within 1,000 feet of DNR protected wetlands over 10 acres in size. Wetlands in this category include the Mississippi River, Moore Lake, Rice Creek, Springbrook Nature Center, Stonybrook, Oak Glen Creek, Camp Lockslea, and Spring Lake. For the 8 of these basins considered above the headwaters, NWP 26 would allow only 10,000 square feet of fill or adverse wetland impact. Any fill or adverse impact exceeding this

threshold would require an individual Corps permit. *Because Corps personnel have not reviewed and confirmed the accuracy of these data, all wetland certification applicants must confirm the regulatory status and permit requirements with the Corps before planning or proceeding with any regulated activity.*

TABLE 1. Classifications and Wetland Conservation Act parameters of wetlands located within the City of Fridley. Revised February 15, 1994.

Basin	ID Number	Classification				% Open Water	Water Source	Inlet/Outlet Character	Size		Sequencing
		NWI Map	Cowardin	Abbrev.	Circ.39				Acres	Sq. Ft.	
66	02-30-24-22-01	PEMBd	PUBFx	PU	5	85	Both	Flow-through	>0.5		Full
51	02-30-24-23-01	PUBFd	PEMF	PEF	4	50	Both	Flow-through	>0.5		Full
64	02-30-24-23-02	PFO1B	PFO1A	PFA	1L	0	Surface	Isolated	>0.5		Full
49	02-30-24-32-01	PFO1B	PFO1A	PFA	1L	0	Surface	Isolated	>0.5		Full
53	03-30-24-11-01	PEMF/PEMC/ PFO1Bd	PEMF/PFO1B/ PEMB	PEF/PFB/ PEB	4/1L/ 2	30	Both	Flow-through	>0.5		Full
50	03-30-24-13-01	PEMCd	PEMB	PEB	2	0	Surface	Isolated	>0.5		Full
52	03-30-24-14-01	PUBFx	PEMFx/PEMB	PEF/PEB	4/2	30	Both	Tributary	>0.5		Full
46	03-30-24-24-01	PEMBd/PFO1Bd	PEMB/C/PSS1Bd	PEB/PEC/PSB	2/3/6	5	Surface	Flow-through	>0.5		Full
59	03-30-24-31-01	not shown	R3UB2	R3	N/A	30	Both	River/Floodpln	>0.5		Full
47	03-30-24-41-01	PUBFx	PUBFx	PU	5	75	Surface	Flow-through	0.40	17,360	Full
48	03-30-24-41-02	not shown	PFO1A/PEMA	PFA/PEA	1L/1	0	Surface	Isolated	>0.5		Full
61	03-30-24-43-01	not shown	R3UB2	R3	N/A	20	Both	River/Floodpln	>0.5		Full
60	10-30-24-13-01	not shown	R3UB2	R3	N/A	30	Both	River/Floodpln	>0.5		Full
45	10-30-24-43-01	PFO1B	PFO1A/PSS1A	PFA/PSA	1L/6	0	Both	Flow-through	>0.5		Full
30	11-30-24-31-01	not shown	PEMB	PEB	2	0	Surface	Isolated	0.16	6,940	Full
31	11-30-24-31-02	PEMC/PFO1C	PEMB/PFO1A	PEB/PFA	1L/2	0	Surface	Isolated	>0.5		Full
32	11-30-24-31-03	PEMC	PEMC	PEC	3	0	Both	Flow-through	0.17	7,595	Full
29	11-30-24-42-01	PFOB/PEMB/ PEMF	PFO1A/PEMB/ PEMC	PFA/PEB/ PEC	1L/2/ 3	0-25	Both	Flow-through	>0.5		Full
33	11-30-24-43-01	PFO1C	PFO1C	PFC	1L	0	Surface	Isolated	0.12	5,260	Full
28	12-30-24-11-01	L1UB	L1UB	L1	5	90-95	Surface	Flow-through	>0.5		Full
27	12-30-24-24-01	not shown	PEMA	PEA	1	0	Surface	Isolated	0.24	10,336	Full
23	12-30-24-32-01	PFO1B/PEMB	PFO1A/PEMA	PFA/PEA	1L/1	0	Both	Isolated	>0.5		Full
26	12-30-24-41-01	PSS1C/PEMC	PEMC	PEC	3	0-5	Surface	Isolated	0.42	18,395	Full
22	13-30-24-12-01	PFO1C	R3UB2/PFO1B/PEMB	R3/PFB/PEB	1L/2	15	Both	River/Floodpln	>0.5		Full
65	13-30-24-23-01	PEMBd	PEMF	PEF	4	80	Both	Flow-through	<0.5		Full
19	13-30-24-32-01	PEMC	PEMB	PEB	2	0	Surface	Isolated	0.19	8,267	Full
18	13-30-24-34-01	PEMF	PEMC	PEC	3	0	Storm	Flow-through	0.16	7,020	Full
21	13-30-24-41-01	PUBGx	PUBGx	PU	5	100	Both	Flow-through	>0.5		Full
20	13-30-24-42-01	PEMB/PSS1Bd	PFO1A/PEMBd	PFA/PEB	1L/2	<5	Both	Flow-through	>0.5		Full

TABLE 1, Continued. Classifications and Wetland Conservation Act parameters of wetlands located within the City of Fridley.

Basin	ID Number	Classification				% Open Water	Water Source	Inlet/Outlet Character	Size		Sequencing
		NWI Map	Cowardin	Abbrev.	Circ.39				Acres	Sq. Ft.	
36	15-30-24-11-01	L2UBG	PSS1C/PUBG	PSC/PU	6/5	25-90	Both	Flow-through	>0.5		Full
62	22-30-24-21-01	R2UB/PFO1C	R2UB/PFO1C	R2/PFC	N/A	90+	Both	River/Floodpln	>0.5		Full
43	23-30-24-14-01	PEMC	PEMB/PEMC	PEB/PEC	2/3	0	Storm	Flow-through	0.09	4,005	Replacement
39	23-30-24-43-01	not shown	PFO1A	PFA	1L	0	Both	Isolated	0.37	16,326	Full
40	23-30-24-43-02	not shown	PEMC	PEC	3	20	Surface	Isolated	0.29	12,606	Full
14	24-30-24-12-01	PEMF	PEMC	PEC	3	30	Surface	Isolated	>0.5		Full
15	24-30-24-12-02	PEMF	PEMF	PEF	4	65	Surface	Isolated	>0.5		Full
12	24-30-24-13-01	PUBF	PUB	PU	5	90-95	Both	Isolated	>0.5		Full
13	24-30-24-13-02	PUBF	PUBF	PU	5	85	Both	Isolated	0.46	19,427	Full
54	24-30-24-14-01	PEMF	PEMC	PEC	3	10	Both	Isolated	>0.5		Full
55	24-30-24-14-02	PUBF	PEMF	PEF	4	55	Both	Isolated	>0.5		Full
56	24-30-24-14-03	PUBF	PSS1C	PSC	6	20	Surface	Isolated	>0.5		Full
57	24-30-24-14-04	PSS1C/PEMF	PSS1C/PEMC	PSC/PEC	6/3	10	Surface	Isolated	>0.5		Full
58	24-30-24-14-05	PSS1C	PSS1C	PSC	6	0	Surface	Isolated	>0.5		Full
1	24-30-24-32-01	PUBF/PEMC	PEMF/PUB	PEF/PU	4/5	85	Both	Flow-through	>0.5		Full
2	24-30-24-32-02	not shown	PEMC	PEC	3	0	Both	Flow-through	>0.5		Full
16	24-30-24-32-03	L1UBH	L1UB4/PEMC	L1/PEC	5	90+	Both	Flow-through	>0.5		Full
11	24-30-24-41-01	not shown	PSS1B	PSB	6	0	Both	Isolated	0.06	2,660	Replacement
3	24-30-24-42-01	PUBf	PUBF	PU	5	80	Both	Flow-through	>0.5		Full
5	24-30-24-42-02	PUBF/PEMC	PUBF	PU	5	85	Both	Isolated	0.34	14,670	Full
6	24-30-24-42-03	PUBF	PEMC	PEC	3	10	Both	Isolated	0.09	4,025	Replacement
7	24-30-24-42-04	PUBF	PUBF	PU	5	80	Both	Isolated	0.17	7,233	Full
4	24-30-24-43-01	PEMC	PSS1C	PSC	6	<10	Both	Isolated	0.38	16,740	Full
8	24-30-24-43-02	PUBG	PUB/AB3	PU/PA	4/5	60-90	Both	Isolated	>0.5		Full
9	24-30-24-44-01	PUBFx	PUBFx	PU	4/5	85	Surface	Isolated	>0.5		Full
10	24-30-24-44-02	PUBFx	PUBFx	PU	5	85-90	Both	Isolated	0.36	15,500	Full
42	25-30-24-11-01	PUBG	PUBG	PU	5	85	Both	Isolated	>0.5		Full
41	25-30-24-12-01	PUBF/PEMF	PEMF/PSS1B	PEF/PSB	4/6	60	Surface	Tributary	>0.5		Full
37	34-30-24-11-01	PUBFx	PEMB	PEB	2	0	Surface	Isolated	0.11	4,957	Full
38	34-30-24-31-01	not shown	PFO1A	PFA	1L	0	Surface	Isolated	>0.5		Full
Wetlands deleted from draft table due to exemptions or revised delineation											
35	10-30-24-44-01 constructed for storm water ponding	not shown	PEMCx	PEC	3	20	Both	Isolated	0.47	20,455	Exempt
44	14-30-24-31-01 constructed for storm water ponding	not shown	PEMA/PEMB	PEA/PEB	1/2	0	Both	Flow-through	>0.5		Exempt
17	24-30-24-21-01 lacks hydric soils	PEMB	PFO1A/PEMA	PFA/PEA	1L/1	0	Surface	Isolated	0.20	8,880	Exempt

TABLE 2. Location, vegetation, and regulatory status of wetlands located within the City of Fridley. Revised February 15, 1994.

Basin	ID Number	Street Location	Predominant Vegetation	Watershed	DNR Protected	Corps of Engineers Headwaters	Corps of Engineers Isolated	Corps of Engineers Adjacent
66	02-30-24-22-01	200 85th Av. NE	No vegetation; construction recently completed	SCWMO	No	Yes	No	Yes
51	02-30-24-23-01	400 83rd Av. NE	50% water, cottonwood, willow, reed canary, cattail	SCWMO	No	Yes	Yes	No
64	02-30-24-23-02	250 83rd Av. NE	Boxelder, elm, stinging nettles	SCWMO	No	Yes	Yes	No
49	02-30-24-32-01	200 81st Av. NE	Boxelder, stinging nettles, jewelweed, reed canary	SCWMO	No	Yes	Yes	No
53	03-30-24-11-01	Springbrook Nat. Ctr.	30% water, vegetation not surveyed	SCWMO	Yes	Yes	No	Yes
50	03-30-24-13-01	8100 Hickory St.	Reed canary grass, prairie cord grass	SCWMO	No	Yes	Yes	No
52	03-30-24-14-01	8200 Main St.	30% water, cottonwood, reed canary, willow, cattail	SCWMO	No	Yes	Yes	No
46	03-30-24-24-01	200 Ironton St.	Dogwood, reed canary grass, hummock sedge, willow, cattail, cottonwood	SCWMO	No	No	No	No
59	03-30-24-31-01	8050 East River Rd.	30% water, cottonwood, boxelder, elm	SCWMO	Yes	No	No	Yes
47	03-30-24-41-01	81st Av, NE & Beech St.	70% water, willow, reed canary grass	SCWMO	No	Yes	Yes	No
48	03-30-24-41-02	8050 Main St.	Cottonwood, reed canary grass, willow, stinging nettles, sedges, jewelweed	SCWMO	No	Yes	Yes	No
61	03-30-24-43-01	7730 East River Rd.	20% water, cottonwood, boxelder, elm	SCWMO	No	Yes	No	Yes
60	10-30-24-13-01	7400 East River Rd	30% water, cottonwood, boxelder, elm	SCWMO	No	Yes	No	Yes
45	10-30-24-43-01	Camp Lockeslea	Boxelder, elm, buckthorn, nettles, sedges, canary	SCWMO	No	Yes	No	Yes
30	11-30-24-31-01	400 73rd Ave. NE	Reed canary, Canada thistle, sedges, cattail, bulrush	RCWD	No	Yes	Yes	No
31	11-30-24-31-02	SE of University & 73rd Av. NE	Reed canary, nettles, boxelder, buckthorn, cottonwood, thistle	RCWD	No	Yes	Yes	No
32	11-30-24-31-03	N. of 320 71st Av	Reed canary, bulrush, cattail	RCWD	No	Yes	Yes	No
29	11-30-24-42-01	1090 73rd Ave. N.	Jewelweed, sedges, nettles, boxelder, cottonwood, elm, cattail	RCWD	No	Yes	Yes	No
33	11-30-24-43-01	Locke Park	Greenash, buckthorn, jewelweed	RCWD	No	Yes	Yes	No
28	12-30-24-11-01	1651 Osborne Road NE	90-95% open water; cattail, bulrush	RCWD	Yes	Yes	No	Yes
27	12-30-24-24-01	7530 Old Central Ave.	Reed canary grass, Canada thistle, boxelder	RCWD	No	Yes	Yes	No
23	12-30-24-32-01	1090 73rd Ave. N.	Cottonwood, nettles, Virginia creeper, jewelweed, canary grass	RCWD	No	Yes	Yes	No
26	12-30-24-41-01	S. of 1700 73rd Ave.	Sedges, reed canary, boxelder, willow	RCWD	No	Yes	Yes	No
22	13-30-24-12-01	Arthur St. & 66th Av.	Cottonwood, boxelder, elm, green ash, silver maple	RCWD	Yes	No	No	Yes
65	13-30-24-23-01	Meadowlands Park	No vegetation; costruction recently completed	RCWD	No	Yes	Yes	No
19	13-30-24-32-01	6300 W. Hwy. 65 Svc Rd.	Sedges, smartweed	RCWD	No	Yes	Yes	No
18	13-30-24-34-01	E. Moore Lake Drive	Cattails, sedges, willow	RCWD	No	Yes	Yes	No
21	13-30-24-41-01	1700 Mississippi St.	100% open water	RCWD	Yes	Yes	Yes	No
20	13-30-24-42-01	1400 Rice Creek Rd.	Cottonwood, silver maple, elm, green ash, aspen, boxelder, willow, reed canary, nettles, sedges	RCWD	No	Yes	Yes	No

TABLE 2, Continued. Location, vegetation, and regulatory status of wetlands located within the City of Fridley.

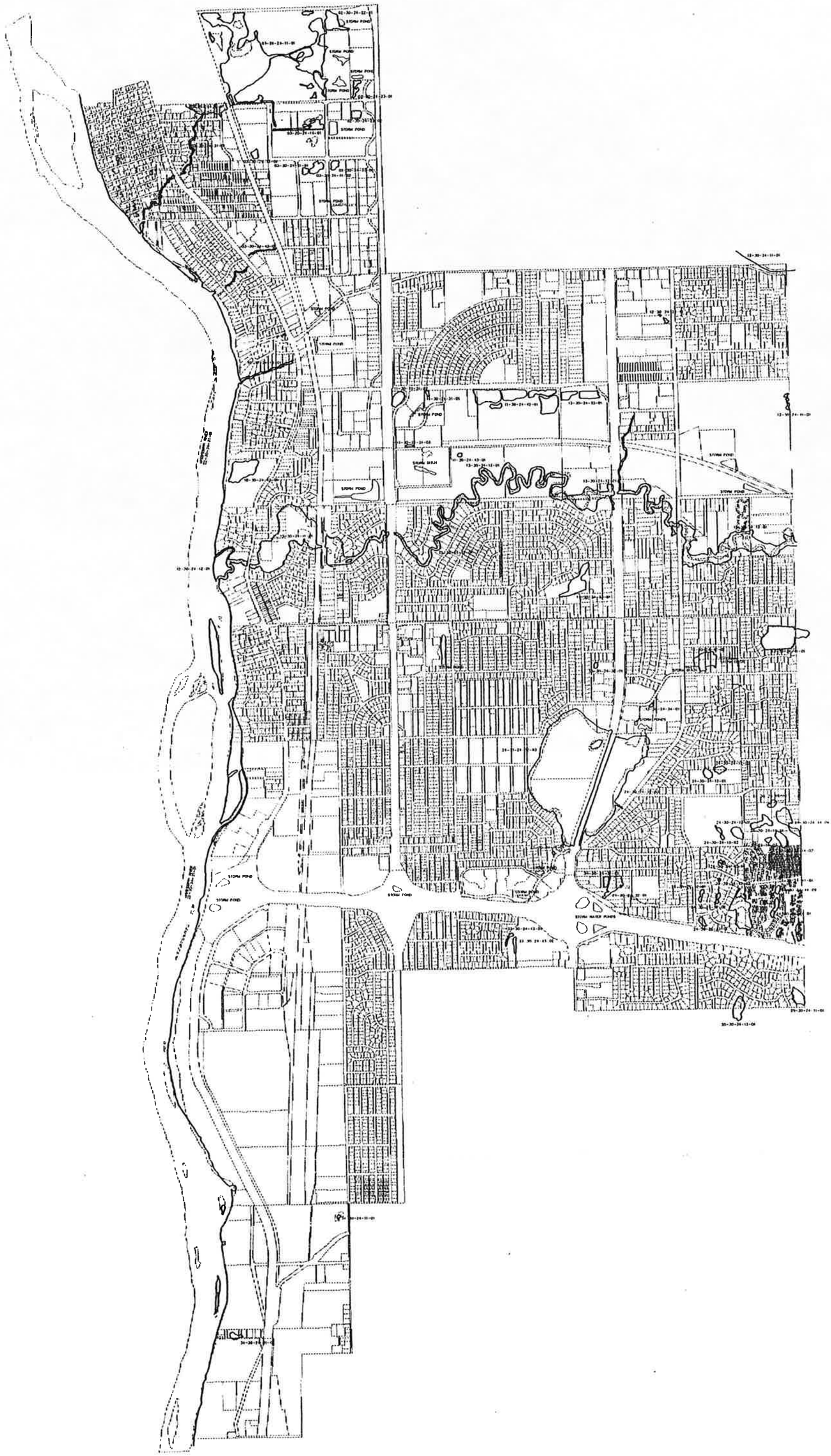
Basin	ID Number	Street Location	Predominant Vegetation	Watershed	DNR Protected	Corps of Engineers Headwaters	Corps of Engineers Isolated	Corps of Engineers Adjacent
36	15-30-24-11-01	Locke Park	Willow, 25% water, boxelder, cottonwood, elm	RCWD	Yes	No	No	No
62	22-30-24-21-01	Mississippi River	90%+ water, cottonwood, boxelder, silver maple	SCWMO	Yes	No	No	Yes
43	23-30-24-14-01	5700 Moore Lake Dr.	Bulrush, sedges, reed canary, bluegrass	SCWMO	No	Yes	Yes	No
39	23-30-24-43-01	700 53rd Av. N.	Cottonwood, willow, boxelder	SCWMO	No	Yes	Yes	No
40	23-30-24-43-02	700 53rd Av. N.	Cattail, bulrush, reed canary, 20% water, willow, cottonwood	SCWMO	No	Yes	Yes	No
14	24-30-24-12-01	N. of 1400 Gardena Ave.	Bulrush, cattail, arrowhead, sedges, willow, cottonwood, boxelder	RCWD	No	Yes	Yes	No
15	24-30-24-12-02	N. of 1400 Gardena Ave.	65% water; cattails	RCWD	No	Yes	Yes	No
12	24-30-24-13-01	SE of Totino-Grace School	90%+ water; reed canary grass, cottonwood	RCWD	No	Yes	Yes	No
13	24-30-24-13-02	E. of Totino-Gracefields	85% water; cottonwood, willow, mud flats	RCWD	No	Yes	Yes	No
54	24-30-24-14-01	Innsbruck Nat. Ctr.	10% water, reed canary, sedges, cattail, cottonwood	RCWD	No	Yes	Yes	No
55	24-30-24-14-02	Innsbruck Nat. Ctr.	55% water, cattail, bulrush	RCWD	No	Yes	Yes	No
56	24-30-24-14-03	Innsbruck Nat. Ctr.	20% water, willow, sedges, boxelder	RCWD	No	Yes	Yes	No
57	24-30-24-14-04	Innsbruck Nat. Ctr.	10% water, willow, sedges, cattail	RCWD	No	Yes	Yes	No
58	24-30-24-14-05	Innsbruck Nat. Ctr.	willow, sedges, silver maple	RCWD	No	Yes	Yes	No
1	24-30-24-32-01	Polk St. S. of Linde Dr.	85% open water; cattail, cottonwood, willow fringe	RCWD	No	Yes	Yes	No
2	24-30-24-32-02	Polk St. S. of Linde Dr.	Cattail, arrowhead, bulrush	RCWD	No	Yes	Yes	No
16	24-30-24-32-03	Central Av & Moore Lake Dr	90%+ water; cattails	RCWD	Yes	Yes	No	Yes
11	24-30-24-41-01	1550 N. Innsbruck Dr.	Cottonwood, dogwood, aspen	SCWMO	No	Yes	Yes	No
3	24-30-24-42-01	5555 Matterhorn Dr.	80% water; cottonwood, willow fringe	RCWD	No	Yes	Yes	No
5	24-30-24-42-02	5498 E. Danube	85% water; duckweed; cottonwood, willow edge	RCWD	No	Yes	Yes	No
6	24-30-24-42-03	1440 Innsbruck Dr.	Reed canary, cattail, willow, arrowhead, cottonwood	RCWD	No	Yes	Yes	No
7	24-30-24-42-04	1452 N. Danube Road	80% water; willow, cottonwood, reed canary grass	RCWD	No	Yes	Yes	No
4	24-30-24-43-01	1350 E. Danube	Buckthorn, stinging nettles	RCWD	No	Yes	Yes	No
8	24-30-24-43-02	1506 Bohnhof Junction	60% water; water lily, cattail, willow, cottonwood	RCWD	Yes	Yes	Yes	No
9	24-30-24-44-01	E. Oberlin Circle	85% water; duckweed, cottonwood, willow, canary, cattail, dogwood	RCWD	No	Yes	Yes	No
10	24-30-24-44-02	1550 N. Innsbruck Dr.	85-90% water; willow, cottonwood, dogwood	SCWMO	No	Yes	Yes	No
42	25-30-24-11-01	5257 St. Moritz Dr.	85% water; cottonwood, boxelder	SCWMO	No	Yes	Yes	No
41	25-30-24-12-01	5151 St. Moritz Dr.	60% water; cottonwood, willow, bluegrass	SCWMO	No	Yes	Yes	No
37	34-30-24-11-01	4500 Main St.	Curled dock, smartweed, barnyard grass	SCWMO	No	Yes	Yes	No
38	34-30-24-31-01	4100 E. River Rd.	Cottonwood, boxelder, Virginia creeper	SCWMO	No	Yes	Yes	No
Wetlands deleted from draft table due to exemptions or revised delineation								
35	10-30-24-44-01	E. of 7150 Ashton	Cattail, sedges, cottonwood	RCWD	No	Yes	Yes	No
44	14-30-24-31-01	6400 7th St. NE	Bluegrass, reed canary, legumes, smartweed, aster	SCWMO	No	Yes	Yes	No
17	24-30-24-21-01	Central Av S of Hillcrest Dr	Black willow, cottonwood, Ky. bluegrass	RCWD	No	Yes	Yes	No

TABLE 3. Characteristics of DNR protected waters, wetlands, and watercourses located entirely or partially within the City of Fridley.

Basin	ID Number	DNR Number	Name	Acres	Type	OHWL	Shoreland Classification
8	24-30-24-43-02	2-78P	Farr Lake	5	4	undetermined	Natural Environment
16	24-30-24-32-01	2-75P	Moore Lake	98	Lake	877.5	Recreational Development
21	13-30-24-41-01	2-685W	Harris Lake	8	4	undetermined	not applicable
28	12-30-24-11-01	2-71P	Spring Lake	55	Lake	904.2	Recreational Development
36	15-30-24-11-01	2-77P	Locke Lake	24	Lake	*	General Development
53	03-30-24-11-01	2-688P	Springbrook	37	4	undetermined	not applicable

DNR protected watercourses include the Mississippi River (Basin 62, ID# 22-30-24-21-01), the creek flowing from the Springbrook Nature Center to the Mississippi River (Basin 59, ID# 03-30-24-31-01), and Rice Creek (Basin 22; ID#13-30-24-12-01). In each of these cases, the limit of DNR jurisdiction (i.e., the OHWL) is the top of the bank of the channel. The DNR does not determine OHWLs for protected watercourses.

* The OHWL for Locke Lake is the normal summer pool elevation. Depending on the elevation set for crest of the dam when the dam is restored, this elevation may change from the OHWL that previously existed.



Westwood

CITY OF FRIDLEY
WETLANDS

12/01/03

Appendix C

MS4 SWPPP Application for Reauthorization

Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194

MS4 SWPPP Application for Reauthorization

for the NPDES/SDS General Small Municipal Separate Storm Sewer System (MS4) Permit MNR040000 reissued with an effective date of August 1, 2013

Stormwater Pollution Prevention Program (SWPPP) Document

Doc Type: Permit Application

Instructions: This application is for authorization to discharge stormwater associated with Municipal Separate Storm Sewer Systems (MS4s) under the National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) Permit Program. **No fee** is required with the submittal of this application. Please refer to "Example" for detailed instructions found on the Minnesota Pollution Control Agency (MPCA) MS4 website at http://www.pca.state.mn.us/ms4.

Submittal: This *MS4 SWPPP Application for Reauthorization* form must be submitted electronically via e-mail to the MPCA at ms4permitprogram.pca@state.mn.us from the person that is duly authorized to certify this form. All questions with an asterisk (*) are required fields. All applications will be returned if required fields are not completed.

Questions: Contact Claudia Hochstein at 651-757-2881 or claudia.hochstein@state.mn.us, Dan Miller at 651-757-2246 or daniel.miller@state.mn.us, or call toll-free at 800-657-3864.

General Contact Information (*Required fields)

MS4 Owner (with ownership or operational responsibility, or control of the MS4)

*MS4 permittee name: City of Fridley *County: Anoka
(city, county, municipality, government agency or other entity)

*Mailing address: 6431 University Avenue NE

*City: Fridley *State: MN *Zip code: 55432

*Phone (including area code): (763) 572-3500 *E-mail: info@fridleymn.gov

MS4 General contact (with Stormwater Pollution Prevention Program [SWPPP] implementation responsibility)

*Last name: Kosluchar *First name: James
(department head, MS4 coordinator, consultant, etc.)

*Title: Director of Public Works / City Engineer

*Mailing address: 6431 University Avenue NE

*City: Fridley *State: MN *Zip code: 55432

*Phone (including area code): (763) 572-3550 *E-mail: jim.kosluchar@fridleymn.gov

Preparer information (complete if SWPPP application is prepared by a party other than MS4 General contact)

Last name: First name:
(department head, MS4 coordinator, consultant, etc.)

Title:

Mailing address:

City: State: Zip code:

Phone (including area code): E-mail:

Verification

1. I seek to continue discharging stormwater associated with a small MS4 after the effective date of this Permit, and shall submit this *MS4 SWPPP Application for Reauthorization* form, in accordance with the schedule in Appendix A, Table 1, with the SWPPP document completed in accordance with the Permit (Part II.D.). ☒ Yes
2. I have read and understand the NPDES/SDS MS4 General Permit and certify that we intend to comply with all requirements of the Permit. ☒ Yes

Certification (All fields are required)

☒ Yes - *I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted.*

I certify that based on my inquiry of the person, or persons, who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of civil and criminal penalties.

This certification is required by Minn. Stat. §§ 7001.0070 and 7001.0540. The authorized person with overall, MS4 legal responsibility must certify the application (principal executive officer or a ranking elected official).

By typing my name in the following box, I certify the above statements to be true and correct, to the best of my knowledge, and that this information can be used for the purpose of processing my application.

Name: James P. Kosluchar
(This document has been electronically signed)

Title: Director of Public Works / City Engineer Date (mm/dd/yyyy): 12/02/2013 (Rev. 01/06/14)

Mailing address: 6431 University Avenue NE

City: Fridley State: MN Zip code: 55432

Phone (including area code): (763) 572-3550 E-mail: jim.kosluchar@fridleymn.gov

Note: *The application will not be processed without certification.*

Stormwater Pollution Prevention Program Document

I. Partnerships: (Part II.D.1)

A. List the **regulated small MS4(s)** with which you have established a partnership in order to satisfy one or more requirements of this Permit. Indicate which Minimum Control Measure (MCM) requirements or other program components that each partnership helps to accomplish (List all that apply). Check the box below if you currently have no established partnerships with other regulated MS4s. If you have more than five partnerships, hit the tab key after the last line to generate a new row.

☐ No partnerships with regulated small MS4s

Name and description of partnership	MCM/Other permit requirements involved
Rice Creek Watershed District. There is a cooperative relationship between the RCWD and the City. The City of Fridley informally coordinates activities with the RCWD when opportunities for coordination are available.	MCMs 1, 2, 3, 4, 5, 6 at varying times
Coon Creek Watershed District. There is a cooperative relationship between the CCWD and the City. The City of Fridley informally coordinates activities with the CCWD when opportunities for coordination are available.	MCMs 1, 2, 3, 4, 5, 6 at varying times

B. If you have additional information that you would like to communicate about your partnerships with other regulated small MS4(s), provide it in the space below, or include an attachment to the SWPPP Document, with the following file naming convention: *MS4NameHere_Partnerships.*

The City of Fridley has informal partnerships with other entities that are not regulated small MS4s that it coordinates MCM activities with including the Mississippi Watershed Management Organization, Anoka Conservation District, Anoka County Health Department, Springbrook Nature Center, and local school districts.

II. Description of Regulatory Mechanisms: (Part II.D.2)

Illicit discharges

A. Do you have a regulatory mechanism(s) that effectively prohibits non-stormwater discharges into your small MS4, except those non-stormwater discharges authorized under the Permit (Part III.D.3.b.)? ☒ Yes ☐ No

1. If **yes:**

   a. Check which *type* of regulatory mechanism(s) your organization has (check all that apply):

   ☒ Ordinance ☐ Contract language
   ☐ Policy/Standards ☐ Permits
   ☐ Rules
   ☐ Other, explain: _____

   b. Provide either a direct link to the mechanism selected above or attach it as an electronic document to this form; or if your regulatory mechanism is either an Ordinance or a Rule, you may provide a citation:

   Citation:

   Adoption of Ordinance 1288 created Fridley City Code Chapter 224 - Stormwater Illicit Discharge Detection and Elimination

   Direct link:

   http://www.ci.fridley.mn.us/images/article-files/citycode/Appendices/Ch_224_Stormwater_Illicit_Discharge_Detection_and_Elimination.pdf

   ☐ Check here if attaching an electronic copy of your regulatory mechanism, with the following file naming convention: *MS4NameHere_IDDEreg.*

2. If **no:**

   Describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, this permit requirement is met:

Construction site stormwater runoff control

A. Do you have a regulatory mechanism(s) that establishes requirements for erosion and sediment controls and waste controls? ☒ Yes ☐ No

1. If **yes:**

a. Check which *type* of regulatory mechanism(s) your organization has (check all that apply):

☒ Ordinance ☐ Contract language
☐ Policy/Standards ☒ Permits
☐ Rules
☐ Other, explain: _____

b. Provide either a direct link to the mechanism selected above or attach it as an electronic document to this form; or if your regulatory mechanism is either an Ordinance or a Rule, you may provide a citation:

Citation:

Adoption of Ordinance 1011 created and adoption of Ordinance 1226 amended Fridley City Code Chapter 208 - Erosion Control

Direct link:

https://www.ci.fridley.mn.us/images/article-files/citycode/200%20Lands%20and%20Buildings/Ch%20208%20Erosion%20Control.pdf

☐ Check here if attaching an electronic copy of your regulatory mechanism, with the following file naming convention: *MS4NameHere_CSWreg.*

B. Is your regulatory mechanism at least as stringent as the MPCA general permit to Discharge Stormwater Associated with Construction Activity (as of the effective date of the MS4 Permit)? ☐Yes ☒ No

If you answered **yes** to the above question, proceed to C.

If you answered **no** to either of the above permit requirements listed in A. or B., describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met:

Note that responses refer to Fridley City Code Chapter 208, and do not consider other regulatory mechanisms. The current combined regulatory measures generally address the same goals as the items listed above. To provide clarity, these regulatory mechanisms will be revised to directly conform to permit requirements. From the date Permit coverage is extended:

1. Staff will develop draft ordinance language to amend Fridley City Code Chapter 208 within 9 months.

2. Ordinance language will be presented for first and second readings and publication (completing adoption) by the Fridley City Council within 12 months.

C. Answer **yes** or **no** to indicate whether your regulatory mechanism(s) requires owners and operators of construction activity to develop site plans that incorporate the following erosion and sediment controls and waste controls as described in the Permit (Part III.D.4.a.(1)-(8)), and as listed below:

1.	Best Management Practices (BMPs) to minimize erosion.	☒ Yes	☐ No
2.	BMPs to minimize the discharge of sediment and other pollutants.	☒ Yes	☐ No
3.	BMPs for dewatering activities.	☐ Yes	☒ No
4.	Site inspections and records of rainfall events	☐ Yes	☒ No
5.	BMP maintenance	☒ Yes	☐ No
6.	Management of solid and hazardous wastes on each project site.	☐ Yes	☒ No
7.	Final stabilization upon the completion of construction activity, including the use of perennial vegetative cover on all exposed soils or other equivalent means.	☒ Yes	☐ No
8.	Criteria for the use of temporary sediment basins.	☒ Yes	☐ No

If you answered **no** to any of the above permit requirements, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met:

Note that responses refer to Fridley City Code Chapter 208, along with other regulatory mechanisms. The current combined regulatory measures generally address the same goals as the items listed above. To provide clarity, these regulatory mechanisms will be revised to directly conform to permit requirements. From the date Permit coverage is extended:

1. Staff will develop draft ordinance language to amend Fridley City Code Chapter 208 within 9 months. This ordinance will provide a stand-alone regulatory mechanism that will require owners and operators of construction activities to develop site plans that incorporate erosion and sediment controls and waste controls as described in Part II.D.4.a.(1)-(8) of the Permit.

2. Ordinance language will be presented for first and second readings and publication (completing adoption) by the Fridley City Council within 12 months.

Post-construction stormwater management

A. Do you have a regulatory mechanism(s) to address post-construction stormwater management activities?
☒ Yes ☐ No

1. If **yes:**

   a. Check which *type* of regulatory mechanism(s) your organization has (check all that apply):
   ☒ Ordinance ☐ Contract language
   ☐ Policy/Standards ☒ Permits
   ☐ Rules
   ☐ Other, explain: _____

   b. Provide either a direct link to the mechanism selected above or attach it as an electronic document to this form; or if your regulatory mechanism is either an Ordinance or a Rule, you may provide a citation:

   Citation:

   Adoption of Ordinance 1011 created and adoption of Ordinance 1226 amended Fridley City Code Chapter 208 - Erosion Control

   Direct link:

   https://www.ci.fridley.mn.us/images/article-files/citycode/200%20Lands%20and%20Buildings/Ch%20208%20Erosion%20Control.pdf

   ☐ Check here if attaching an electronic copy of your regulatory mechanism, with the following file naming convention: *MS4NameHere_PostCSWreg.*

B. Answer **yes** or **no** below to indicate whether you have a regulatory mechanism(s) in place that meets the following requirements as described in the Permit (Part III.D.5.a.):

1. **Site plan review:** Requirements that owners and/or operators of construction activity submit site plans with post-construction stormwater management BMPs to the permittee for review and approval, prior to start of construction activity. ☒ Yes ☐ No

2. **Conditions for post construction stormwater management:** Requires the use of any combination of BMPs, with highest preference given to Green Infrastructure techniques and practices (e.g., infiltration, evapotranspiration, reuse/harvesting, conservation design, urban forestry, green roofs, etc.), necessary to meet the following conditions on the site of a construction activity to the Maximum Extent Practicable (MEP):

   a. For new development projects – no net increase from pre-project conditions (on an annual average basis) of: ☐ Yes ☒ No
      1) Stormwater discharge volume, unless precluded by the stormwater management limitations in the Permit (Part III.D.5.a(3)(a)).
      2) Stormwater discharges of Total Suspended Solids (TSS).
      3) Stormwater discharges of Total Phosphorus (TP).

   b. For redevelopment projects – a net reduction from pre-project conditions (on an annual average basis) of: ☐ Yes ☒ No
      1) Stormwater discharge volume, unless precluded by the stormwater management limitations in the Permit (Part III.D.5.a(3)(a)).
      2) Stormwater discharges of TSS.
      3) Stormwater discharges of TP.

3. **Stormwater management limitations and exceptions:**

   a. Limitations

      1) Prohibit the use of infiltration techniques to achieve the conditions for post-construction stormwater management in the Permit (Part III.D.5.a(2)) when the infiltration structural stormwater BMP will receive discharges from, or be constructed in areas: ☐ Yes ☒ No
         a) Where industrial facilities are not authorized to infiltrate industrial stormwater under an NPDES/SDS Industrial Stormwater Permit issued by the MPCA.
         b) Where vehicle fueling and maintenance occur.

c) With less than three (3) feet of separation distance from the bottom of the infiltration system to the elevation of the seasonally saturated soils or the top of bedrock.
d) Where high levels of contaminants in soil or groundwater will be mobilized by the infiltrating stormwater.

2) Restrict the use of infiltration techniques to achieve the conditions for post-construction stormwater management in the Permit (Part III.D.5.a(2)), without higher engineering review, sufficient to provide a functioning treatment system and prevent adverse impacts to groundwater, when the infiltration device will be constructed in areas: ☐ Yes ☒ No

a) With predominately Hydrologic Soil Group D (clay) soils.
b) Within 1,000 feet up-gradient, or 100 feet down-gradient of active karst features.
c) Within a Drinking Water Supply Management Area (DWSMA) as defined in Minn. R. 4720.5100, subp. 13.
d) Where soil infiltration rates are more than 8.3 inches per hour.

3) For linear projects where the lack of right-of-way precludes the installation of volume control practices that meet the conditions for post-construction stormwater management in the Permit (Part III.D.5.a(2)), the permittee's regulatory mechanism(s) may allow exceptions as described in the Permit (Part III.D.5.a(3)(b)). The permittee's regulatory mechanism(s) shall ensure that a reasonable attempt be made to obtain right-of-way during the project planning process. ☐ Yes ☒ No

4. **Mitigation provisions:** The permittee's regulatory mechanism(s) shall ensure that any stormwater discharges of TSS and/or TP not addressed on the site of the original construction activity are addressed through mitigation and, at a minimum, shall ensure the following requirements are met:

a. Mitigation project areas are selected in the following order of preference: ☐ Yes ☒ No

1) Locations that yield benefits to the same receiving water that receives runoff from the original construction activity.
2) Locations within the same Minnesota Department of Natural Resource (DNR) catchment area as the original construction activity.
3) Locations in the next adjacent DNR catchment area up-stream
4) Locations anywhere within the permittee's jurisdiction.

b. Mitigation projects must involve the creation of new structural stormwater BMPs or the retrofit of existing structural stormwater BMPs, or the use of a properly designed regional structural stormwater BMP. ☐ Yes ☒ No

c. Routine maintenance of structural stormwater BMPs already required by this permit cannot be used to meet mitigation requirements of this part. ☐ Yes ☒ No

d. Mitigation projects shall be completed within 24 months after the start of the original construction activity. ☐ Yes ☒ No

e. The permittee shall determine, and document, who will be responsible for long-term maintenance on all mitigation projects of this part. ☐ Yes ☒ No

f. If the permittee receives payment from the owner and/or operator of a construction activity for mitigation purposes in lieu of the owner or operator of that construction activity meeting the conditions for post-construction stormwater management in Part III.D.5.a(2), the permittee shall apply any such payment received to a public stormwater project, and all projects must be in compliance with Part III.D.5.a(4)(a)-(e). ☐ Yes ☒ No

5. **Long-term maintenance of structural stormwater BMPs:** The permittee's regulatory mechanism(s) shall provide for the establishment of legal mechanisms between the permittee and owners or operators responsible for the long-term maintenance of structural stormwater BMPs not owned or operated by the permittee, that have been implemented to meet the conditions for post-construction stormwater management in the Permit (Part III.D.5.a(2)). This only includes structural stormwater BMPs constructed after the effective date of this permit and that are directly connected to the permittee's MS4, and that are in the permittee's jurisdiction. The legal mechanism shall include provisions that, at a minimum:

a. Allow the permittee to conduct inspections of structural stormwater BMPs not owned or operated by the permittee, perform necessary maintenance, and assess costs for those structural stormwater BMPs when the permittee determines that the owner and/or operator of that structural stormwater BMP has not conducted maintenance. ☒ Yes ☐ No

b. Include conditions that are designed to preserve the permittee's right to ensure maintenance ☒ Yes ☐ No

responsibility, for structural stormwater BMPs not owned or operated by the permittee, when those responsibilities are legally transferred to another party.

c. Include conditions that are designed to protect/preserve structural stormwater BMPs and site features that are implemented to comply with the Permit (Part III.D.5.a(2)). If site configurations or structural stormwater BMPs change, causing decreased structural stormwater BMP effectiveness, new or improved structural stormwater BMPs must be implemented to ensure the conditions for post-construction stormwater management in the Permit (Part III.D.5.a(2)) continue to be met. ☒ Yes ☐ No

If you answered **no** to any of the above permit requirements, describe the tasks and corresponding schedules that will be taken to assure that, within twelve (12) months of the date permit coverage is extended, these permit requirements are met:

Note that responses refer to Fridley City Code Chapter 208, and do not consider other regulatory mechanisms. The current combined regulatory measures generally address the same goals as the items listed above. To provide clarity, these regulatory mechanisms will be revised to directly conform to permit requirements. From the date Permit coverage is extended:

1. Staff will develop draft ordinance language to amend Fridley City Code Chapter 208 within 9 months.

2. Ordinance language will be presented for first and second readings and publication (completing adoption) by the Fridley City Council within 12 months.

III. Enforcement Response Procedures (ERPs): (Part II.D.3)

A. Do you have existing ERPs that satisfy the requirements of the Permit (Part III.B.)? ☐ Yes ☒ No

1. If **yes**, attach them to this form as an electronic document, with the following file naming convention: *MS4NameHere_ERPs.*
2. If **no**, describe the tasks and corresponding schedules that will be taken to assure that, with twelve (12) months of the date permit coverage is extended, these permit requirements are met:

   The City of Fridley will adopt formalized ERPs using updated regulatory mechanisms within 12 months of the date Permit coverage is extended.

B. Describe your ERPs:

Fridley City Code provides enforcement methods that can be followed in the event of a violation relating to illicit discharge and temporary and permanent erosion control. While these procedures are not currently formalized, the City of Fridley uses these methods for correction of ordinance violations, and to minimize future ordinance violations.

IV. Storm Sewer System Map and Inventory: (Part II.D.4.)

A. Describe how you manage your storm sewer system map and inventory:

The storm sewer system map and inventory have traditionally been maintained in CAD format. The City of Fridley has recently converted this information to an integrated GIS system that can be updated and is accessible online for authorized users. The overview map shows the location of public and private storm sewers, culverts, manholes, catch basins, detention and retention basins, and other system components. Additional information about each system component can be accessed directly by clicking on the item of interest. The map is linked to a database that includes basic component information, and will soon be linked to additional pertinent information such as record drawings, reports, and other relevant computer files. The map is regularly updated with new system information and revisions as they become available.

B. Answer **yes** or **no** to indicate whether your storm sewer system map addresses the following requirements from the Permit (Part III.C.1.a-d), as listed below:

1. The permittee's entire small MS4 as a goal, but at a minimum, all pipes 12 inches or greater in diameter, including stormwater flow direction in those pipes. ☒ Yes ☐ No
2. Outfalls, including a unique identification (ID) number assigned by the permittee, and an associated geographic coordinate. ☒ Yes ☐ No
3. Structural stormwater BMPs that are part of the permittee's small MS4. ☐ Yes ☒ No
4. All receiving waters. ☒ Yes ☐ No

If you answered **no** to any of the above permit requirements, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met:

The City of Fridley is currently working on an update to its storm sewer map to include structural stormwater BMPs, and will perform the follwing activities from the date that Permit coverage is extended:

1. Within 6 months, complete a draft map of structural stormwater BMPs.

2. *Within 9 months, complete a field review of the draft map of structural stormwater BMPs.*
3. *Within 12 months, revise the draft map of structural stormwater BMPs to create a final map.*

C. Answer **yes** or **no** to indicate whether you have completed the requirements of 2009 Minnesota Session Law, Ch. 172. Sec. 28: with the following inventories, according to the specifications of the Permit (Part III.C.2.a.-b.), including:

1. All ponds within the permittee's jurisdiction that are constructed and operated for purposes of water quality treatment, stormwater detention, and flood control, and that are used for the collection of stormwater via constructed conveyances. ☐ Yes ☒ No
2. All wetlands and lakes, within the permittee's jurisdiction, that collect stormwater via constructed conveyances. ☐ Yes ☒ No

D. Answer **yes** or **no** to indicate whether you have completed the following information for each feature inventoried.

1. A unique identification (ID) number assigned by the permittee. ☐ Yes ☒ No
2. A geographic coordinate. ☐ Yes ☒ No
3. Type of feature (e.g., pond, wetland, or lake). This may be determined by using best professional judgment. ☐ Yes ☒ No

If you have answered **yes** to all above requirements, and you have already submitted the Pond Inventory Form to the MPCA, then you do not need to resubmit the inventory form below.

If you answered **no** to any of the above permit requirements, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met:

The City of Fridley is currently near completion of its first draft of this inventory, and will perform the follwing activities from the date that Permit coverage is extended:

1. *Within 3 months, complete its first draft of required inventory elements.*
2. *Within 9 months, complete a field review of the draft inventory elements.*
3. *Within 12 months, revise the draft inventory elements to create a final inventory, and submit this inventory to MPCA.*

E. Answer **yes** or **no** to indicate if you are attaching your pond, wetland and lake inventory to the MPCA on the form provided on the MPCA website at: http://www.pca.state.mn.us/ms4 , according to the specifications of Permit (Part III.C.2.b.(1)-(3)). Attach with the following file naming convention: *MS4NameHere_inventory*. ☐ Yes ☒ No

If you answered **no,** the inventory form must be submitted to the MPCA MS4 Permit Program within 12 months of the date permit coverage is extended.

V. Minimum Control Measures (MCMs) (Part II.D.5)

A. MCM1: Public education and outreach

1. The Permit requires that, within 12 months of the date permit coverage is extended, existing permittees revise their education and outreach program that focuses on illicit discharge recognition and reporting, as well as other specifically selected stormwater-related issue(s) of high priority to the permittee during this permit term. Describe your **current** educational program, including **any high-priority topics included**:

   The City of Fridley has conducted an education and outreach program that is largely aimed at educating students, along with program components to inform residents, businesses, contractors, City staff and public officials about various storm water quality topics including water quality, impacts of illicit discharges, and proper waste disposal through cable television, handouts, newsletter articles, announcements, and formal and informal presentations. This program has been particularly effective in educating large numbers of K-12 students, with likely secondary eduction to family members. We plan to expand this educational effort to include an annual field presentation coordinated with the Fridley School District, and to add presentations to local businesses on proper hazardous waste storage and disposal. We also plan to eliminate our annual public meeting, as we have not had attendees from the public at these meetings.

2. List the categories of BMPs that address your public education and outreach program, including the distribution of educational materials and a program implementation plan. Use the first table for categories of BMPs that you have established and the second table for categories of BMPs that you plan to implement over the course of the permit term.

   Include the measurable goals with appropriate timeframes that each BMP category will be implemented and completed. In addition, provide interim milestones and the frequency of action in which the permittee will implement and/or maintain the BMPs. Refer to the U.S. Environmental Protection Agency's (EPA) *Measurable Goals Guidance for Phase II Small MS4s* (http://www.epa.gov/npdes/pubs/measurablegoals.pdf).

If you have more than five categories, hit the tab key after the last line to generate a new row.

Established BMP categories	Measurable goals and timeframes
Distribute Educational Materials	Distribute 50 general handouts annually
Cable TV Videos and Interactive Activities	Air stormwater-related programming 20 times per year
Public Participation through Workshops, Events, and Curriculum	50 adult participants and 200 student participants per year
Illicit Discharge Detection and Elimination through Inlet Stenciling and Newsletter Articles	20 inlets per year and 2 newsletter articles per year
Construction Site Run-off Control through Handouts	Distribute 20 handouts per year
Post-Construction Stormwater Management in New Development and Redevelopment through Handouts	Distribute 20 handouts per year
Pollution Prevention/Good Housekeeping for Municipal Operations through Internal Workshops	One annual workshop with appropriate staff
Coordination of Education Program	Meet once per year with WDs to coordinate education program
~~Annual Public Stormwater Review Meeting~~	~~One annual meeting~~
Informing Local Officials	Advise local officials of all special workshops and events

BMP categories to be implemented	Measurable goals and timeframes
Field Presentations to Elementary School Students	Provide one field presentation on stormwater annually
Presentations to local businesses on hazardous waste management and disposal	Provide one annual presentation to local businesses

3. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

   James Kosluchar (Director of Public Works / City Engineer), Kay Qualley (Environmental Planner)

B. MCM2: Public participation and involvement

1. The Permit (Part III.D.2.a.) requires that, within 12 months of the date permit coverage is extended, existing permittees shall revise their current program, as necessary, and continue to implement a public participation/involvement program to solicit public input on the SWPPP. Describe your current program:

   The City of Fridley's public participation and involvement minimum control measure has revolved around the opportunity to comment at its annual public stormwater review meeting. This has been ineffective at obtaining public participation and involvement, as we have not had attendees from the public at these meetings. We therefore plan to eliminate this public meeting and provide other avenues for public participation under the new permit.

2. List the categories of BMPs that address your public participation/involvement program, including solicitation and documentation of public input on the SWPPP. Use the first table for categories of BMPs that you have established and the second table for categories of BMPs that you plan to implement over the course of the permit term.

   Include the measurable goals with appropriate timeframes that each BMP category will be implemented and completed. In addition, provide interim milestones and the frequency of action in which the permittee will implement and/or maintain the BMPs. Refer to the EPA's *Measurable Goals Guidance for Phase II Small MS4s* (http://www.epa.gov/npdes/pubs/measurablegoals.pdf). **If you have more than five categories**, hit the tab key after the last line to generate a new row.

Established BMP categories	Measurable goals and timeframes
~~Notice Public of Annual Public Stormwater Review Meeting~~	~~Notice one annual meeting~~
~~Presentation at Annual Public Stormwater Review Meeting~~	~~One presentation to the public and number of comments received~~
~~Consider Public Input from Annual Public Stormwater Review Meeting~~	~~Number of comments received, and reviewed~~

BMP categories to be implemented	Measurable goals and timeframes
Respond to comments provided by the public through completion of a survey at various meetings and workshops	Follow up on and respond to all comments when not anonymous

Solicit comments from the public on stormwater-related issues through the City's website	Follow up on and respond to all comments when not anonymous
Provide hands-on participation in the City's stormwater program by the public through volunteer participation in the City's raingarden program or other stormwater programs	Promote volunteerism so that 5 persons per year request information on these programs

3. Do you have a process for receiving and documenting citizen input? ☒ Yes ☐ No

   If you answered **no** to the above permit requirement, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, this permit requirement is met:

4. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

   James Kosluchar (Director of Public Works / City Engineer), Kay Qualley (Environmental Planner)

C. MCM 3: Illicit discharge detection and elimination

1. The Permit (Part III.D.3.) requires that, within 12 months of the date permit coverage is extended, existing permittees revise their current program as necessary, and continue to implement and enforce a program to detect and eliminate illicit discharges into the small MS4. Describe your current program:

   Our current program to address MCM3 in the City of Fridley consists of knowledgable staff who regularly inspect outfalls and respond to field observations or complaints in addressing illicit discharges. While we currently keep records of these activities, the activities require documented procedures and records need to be centralized to conform to the new Permit. Traininig in aspects of the new permit is also needed.

2. Does your Illicit Discharge Detection and Elimination Program meet the following requirements, as found in the Permit (Part III.D.3.c.-g.)?

   a. Incorporation of illicit discharge detection into all inspection and maintenance activities conducted under the Permit (Part III.D.6.e.-f.)Where feasible, illicit discharge inspections shall be conducted during dry-weather conditions (e.g., periods of 72 or more hours of no precipitation). ☒ Yes ☐ No

   b. Detecting and tracking the source of illicit discharges using visual inspections. The permittee may also include use of mobile cameras, collecting and analyzing water samples, and/or other detailed procedures that may be effective investigative tools. ☒ Yes ☐ No

   c. Training of all field staff, in accordance with the requirements of the Permit (Part III.D.6.g.(2)), in illicit discharge recognition (including conditions which could cause illicit discharges), and reporting illicit discharges for further investigation. ☐ Yes ☒ No

   d. Identification of priority areas likely to have illicit discharges, including at a minimum, evaluating land use associated with business/industrial activities, areas where illicit discharges have been identified in the past, and areas with storage of large quantities of significant materials that could result in an illicit discharge. ☐ Yes ☒ No

   e. Procedures for the timely response to known, suspected, and reported illicit discharges. ☐ Yes ☒ No

   f. Procedures for investigating, locating, and eliminating the source of illicit discharges. ☐ Yes ☒ No

   g. Procedures for responding to spills, including emergency response procedures to prevent spills from entering the small MS4. The procedures shall also include the immediate notification of the Minnesota Department of Public Safety Duty Officer, if the source of the illicit discharge is a spill or leak as defined in Minn. Stat. § 115.061. ☒ Yes ☐ No

   h. When the source of the illicit discharge is found, the permittee shall use the ERPs required by the Permit (Part III.B.) to eliminate the illicit discharge and require any needed corrective action(s). ☐ Yes ☒ No

   If you answered **no** to any of the above permit requirements, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met:

   Multiple procedures, trainings, and response plans exist within various departments within City of Fridley that generally deal with the requirements above relating to the prior MS4 permit. Relevant written City of Fridley resources and procedures for response and training will be developed to conform to the illicit discharge program requirements of the new Permit within 9 months from the date that Permit coverage is extended.

3. List the categories of BMPs that address your illicit discharge, detection and elimination program. Use the first table for categories of BMPs that you have established and the second table for categories of BMPs that you plan to implement over the course of the permit term.

   Include the measurable goals with appropriate timeframes that each BMP category will be implemented and completed. In addition, provide interim milestones and the frequency of action in which the permittee will implement and/or maintain the BMPs. Refer to the EPA's *Measurable Goals Guidance for Phase II Small MS4s*

(http://www.epa.gov/npdes/pubs/measurablegoals.pdf).

If you have more than five categories, hit the tab key after the last line to generate a new row.

Established BMP categories	Measurable goals and timeframes
Storm Sewer System Map	Complete annual maintenance and revision
Regulatory Control Program	Complete annual review of ordinances and regulations
Illicit Discharge Detection and Elimination Plan	Inspection of 20% of outfalls annually and respond to any field observations or complaints regarding outfalls
Public and Employee Illicit Discharge Information Program	One annual workshop with appropriate staff
Identification of Non Stormwater Discharges and Flows	Log identified non-stormwater discharges and maintain action plans for any discharges of concern

BMP categories to be implemented	Measurable goals and timeframes
Complete and adopt Formalized Enforcement Response Procedures	Within 12 months of the date Permit coverage is extended
Complete Updated Mapping in Accordance with the New Permit	Within 12 months of the date Permit coverage is extended
Presentations to local businesses on hazardous waste management and disposal	Provide one annual presentation to local businesses
Review IDDE-related procedures	Complete annual review of procedures
Revise IDDE-related procedures	Revise procedures upon recommendation of review

4. Do you have procedures for record-keeping within your Illicit Discharge Detection and Elimination (IDDE) program as specified within the Permit (Part III.D.3.h.)? ☐ Yes ☒ No

   If you answered **no**, indicate how you will develop procedures for record-keeping of your Illicit Discharge, Detection and Elimination Program, within 12 months of the date permit coverage is extended:

   While records relating to illicit discharge are currently maintained under the prior MS4 permit, these record keeping methods need to be updated to conform to the illicit discharge program requirements of the new Permit. This will be completed within 9 months from the date that Permit coverage is extended.

5. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

   James Kosluchar (Director of Public Works / City Engineer)

D. MCM 4: Construction site stormwater runoff control

1. The Permit (Part III.D.4) requires that, within 12 months of the date permit coverage is extended, existing permittees shall revise their current program, as necessary, and continue to implement and enforce a construction site stormwater runoff control program. Describe your current program:

   The City of Fridley currently addresses MCM4 through permitting, plan reviews, and inspections by trained staff. While we currently keep records of these activities, the activities require documented procedures and records need to be centralized to conform to the new Permit.

2. Does your program address the following BMPs for construction stormwater erosion and sediment control as required in the Permit (Part III.D.4.b.):
   a. Have you established written procedures for site plan reviews that you conduct prior to the start of construction activity? ☐ Yes ☒ No
   b. Does the site plan review procedure include notification to owners and operators proposing construction activity that they need to apply for and obtain coverage under the MPCA's general permit to *Discharge Stormwater Associated with Construction Activity No. MN R100001*? ☒ Yes ☐ No
   c. Does your program include written procedures for receipt and consideration of reports of noncompliance or other stormwater related information on construction activity submitted by the public to the permittee? ☐ Yes ☒ No
   d. Have you included written procedures for the following aspects of site inspections to determine compliance with your regulatory mechanism(s):
      1) Does your program include procedures for identifying priority sites for inspection? ☐ Yes ☒ No
      2) Does your program identify a frequency at which you will conduct construction site inspections? ☐ Yes ☒ No
      3) Does your program identify the names of individual(s) or position titles of those responsible for conducting construction site inspections? ☒ Yes ☐ No

4) Does your program include a checklist or other written means to document construction site inspections when determining compliance? ☒ Yes ☐ No

e. Does your program document and retain construction project name, location, total acreage to be disturbed, and owner/operator information? ☒ Yes ☐ No

f. Does your program document stormwater-related comments and/or supporting information used to determine project approval or denial? ☒ Yes ☐ No

g. Does your program retain construction site inspection checklists or other written materials used to document site inspections? ☒ Yes ☐ No

If you answered **no** to any of the above permit requirements, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met.

The City of Fridley plan review and construction site inspection procedures currently address construction site runoff control well, but formalizing and documenting of written procedures regarding plan reviews, inspections, and recordkeeping is needed to meet the requirements of the new Permit. This will be completed within 9 months from the date that Permit coverage is extended.

3. List the categories of BMPs that address your construction site stormwater runoff control program. Use the first table for categories of BMPs that you have established and the second table for categories of BMPs that you plan to implement over the course of the permit term.

   Include the measurable goals with appropriate timeframes that each BMP category will be implemented and completed. In addition, provide interim milestones and the frequency of action in which the permittee will implement and/or maintain the BMPs. Refer to the EPA's *Measurable Goals Guidance for Phase II Small MS4s* (http://www.epa.gov/npdes/pubs/measurablegoals.pdf). **If you have more than five categories**, hit the tab key after the last line to generate a new row.

Established BMP categories	**Measurable goals and timeframes**
Ordinance or other Regulatory Mechanism	Complete annual review of ordinances and regulations
Construction Site Implementation of Erosion and Sediment Control BMPs	>75% of inspections meeting requirements annually
Waste Controls for Construction Site Operators	>75% of inspections meeting requirements annually
Procedure for Site Plan Review	>20% of plans meeting storm water requirements with no revision annually
Establishment of Procedures for the Receipt and Consideration of Reports of Stormwater Noncompliance	>80% of applicable comments received related to stormwater annually
Establishment of Procedures for Site Inspections and Enforcement	>80% of inspections are permitted projects annually

BMP categories to be implemented	**Measurable goals and timeframes**
Update to Chapter 208 Fridley City Code	Complete within 12 months of the date Permit coverage is extended
Complete and adopt Formalized Enforcement Response Procedures	Within 12 months of the date Permit coverage is extended
Review CSSRC-related procedures	Complete annual review of procedures
Revise CSSRC-related procedures	Revise procedures upon recommendation of review

4. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

   James Kosluchar (Director of Public Works / City Engineer)

E. MCM 5: Post-construction stormwater management

1. The Permit (Part III.D.5.) requires that, within 12 months of the date permit coverage is extended, existing permittees shall revise their current program, as necessary, and continue to implement and enforce a post-construction stormwater management program. Describe your current program:

   There are a number processes that the City of Fridley uses to ensure an effective post-construction stormwater management program. Design checklists, template maintenance agreements and access agreements are used to ensure that BMPs can be maintained effectively after construction. These elements are commonly coordinated with our local WDs, enabling redundancy of review process and administration of long-term maintenance.

2. Have you established written procedures for site plan reviews that you will conduct prior to the start of construction activity? ☒ Yes ☐ No

3. Answer **yes** or **no** to indicate whether you have the following listed procedures for documentation of

post-construction stormwater management according to the specifications of Permit (Part III.D.5.c.):

a. Any supporting documentation that you use to determine compliance with the Permit (Part III.D.5.a), including the project name, location, owner and operator of the construction activity, any checklists used for conducting site plan reviews, and any calculations used to determine compliance? ☒ Yes ☐ No

b. All supporting documentation associated with mitigation projects that you authorize? ☐ Yes ☒ No

c. Payments received and used in accordance with Permit (Part III.D.5.a.(4)(f))? ☐ Yes ☒ No

d. All legal mechanisms drafted in accordance with the Permit (Part III.D.5.a.(5)), including date(s) of the agreement(s) and names of all responsible parties involved? ☐ Yes ☒ No

If you answered **no** to any of the above permit requirements, describe the steps that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met.

The City of Fridley post-construction stormwater management procedures are currently effective, but formalizing and documenting of written procedures regarding checklists, agreements, and recordkeeping is needed to meet the requirements of the new Permit. This will be completed within 9 months from the date that Permit coverage is extended.

4. List the categories of BMPs that address your post-construction stormwater management program. Use the first table for categories of BMPs that you have established and the second table for categories of BMPs that you plan to implement over the course of the permit term.

   Include the measurable goals with appropriate timeframes that each BMP category will be implemented and completed. In addition, provide interim milestones and the frequency of action in which the permittee will implement and/or maintain the BMPs. Refer to the EPA's *Measurable Goals Guidance for Phase II Small MS4s* (http://www.epa.gov/npdes/pubs/measurablegoals.pdf). **If you have more than five categories**, hit the tab key after the last line to generate a new row.

Established BMP categories	**Measurable goals and timeframes**
Development and Implementation of Structural and/or Non-structural BMPs	> One BMP implemented per site redeveloped
Regulatory Mechanism to Address Post Construction Runoff from New Development and Redevelopment	Complete annual review of ordinances and regulations
Long-term Operation and Maintenance of BMPs	Maintenance agreements filed for each large site

BMP categories to be implemented	**Measurable goals and timeframes**
Complete and adopt Formalized Enforcement Response Procedures	Within 12 months of the date Permit coverage is extended
Review PCSM-related procedures	Complete annual review of procedures
Revise PCSM-related procedures	Revise procedures upon recommendation of review

5. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

   James Kosluchar (Director of Public Works / City Engineer)

F. MCM 6: Pollution prevention/good housekeeping for municipal operations

1. The Permit (Part III.D.6.) requires that, within 12 months of the date permit coverage is extended, existing permittees shall revise their current program, as necessary, and continue to implement an operations and maintenance program that prevents or reduces the discharge of pollutants from the permittee owned/operated facilities and operations to the small MS4. Describe your current program:

2. Do you have a facilities inventory as outlined in the Permit (Part III.D.6.a.)? ☐ Yes ☒ No

3. If you answered **no** to the above permit requirement in question 2, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, this permit requirement is met:

   The City of Fridley will complete an inventory of municipal facilities will be completed as outlined in the Permit, and this will be added to our GIS stormwater management system database within 12 months of the date Permit coverage is extended.

4. List the categories of BMPs that address your pollution prevention/good housekeeping for municipal operations program. Use the first table for categories of BMPs that you have established and the second table for categories of BMPs that you plan to implement over the course of the permit term.

Include the measurable goals with appropriate timeframes that each BMP category will be implemented and completed. In addition, provide interim milestones and the frequency of action in which the permittee will implement and/or maintain the BMPs. For an explanation of measurable goals, refer to the EPA's *Measurable Goals Guidance for Phase II Small MS4s* (http://www.epa.gov/npdes/pubs/measurablegoals.pdf).

If you have more than five categories, hit the tab key after the last line to generate a new row.

Established BMP categories	**Measurable goals and timeframes**
Municipal Operations and Maintenance Program	One annual workshop with appropriate staff accommodating feedback
Street Sweeping	Complete one spring and one fall round of sweeping citywide
Inspection of Structural Pollution Control Devices	Complete annual inspection of all structural pollution control devices
Inspection of Outfalls, Sediment Basins and Ponds Each Year on a Rotating Basis	Inspect 20% or more annually
Inspection of Exposed Stockpile, Storage and Material Handling Areas	Complete quarterly inspection of all stockpile, storage and material handling areas
Corrective actions	Complete corrective actions associated with above inspections
Recordkeeping	Maintain records of above corrective action and inspections per record retention policy
BMP categories to be implemented	**Measurable goals and timeframes**
Complete inventory of municipal facilities as outlined in new Permit	Complete within 12 months of the date Permit coverage is extended

5. Does discharge from your MS4 affect a Source Water Protection Area (Permit Part III.D.6.c.)? ☒ Yes ☐ No

   a. If **no**, continue to 6.

   b. If **yes**, the Minnesota Department of Health (MDH) is in the process of mapping the following items. Maps are available at http://www.health.state.mn.us/divs/eh/water/swp/maps/index.htm. Is a map including the following items available for your MS4:

      1) Wells and source waters for drinking water supply management areas identified as vulnerable under Minn. R. 4720.5205, 4720.5210, and 4720.5330? ☒ Yes ☐ No

      2) Source water protection areas for surface intakes identified in the source water assessments conducted by or for the Minnesota Department of Health under the federal Safe Drinking Water Act, U.S.C. §§ 300j – 13? ☒ Yes ☐ No

   c. Have you developed and implemented BMPs to protect any of the above drinking water sources? ☒ Yes ☐ No

6. Have you developed procedures and a schedule for the purpose of determining the TSS and TP treatment effectiveness of all permittee owned/operated ponds constructed and used for the collection and treatment of stormwater, according to the Permit (Part III.D.6.d.)? ☐ Yes ☒ No

7. Do you have inspection procedures that meet the requirements of the Permit (Part III.D.6.e.(1)-(3)) for structural stormwater BMPs, ponds and outfalls, and stockpile, storage and material handling areas? ☐ Yes ☒ No

8. Have you developed and implemented a stormwater management training program commensurate with each employee's job duties that:

   a. Addresses the importance of protecting water quality? ☒ Yes ☐ No

   b. Covers the requirements of the permit relevant to the duties of the employee? ☒ Yes ☐ No

   c. Includes a schedule that establishes initial training for new and/or seasonal employees and recurring training intervals for existing employees to address changes in procedures, practices, techniques, or requirements? ☐ Yes ☒ No

9. Do you keep documentation of inspections, maintenance, and training as required by the Permit (Part III.D.6.h.(1)-(5))? ☐ Yes ☒ No

If you answered **no** to any of the above permit requirements listed in **Questions 5 – 9**, then describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met:

The City of Fridley will updated its training program as outlined in the new Permit within 12 months of the date Permit coverage is extended In addition, procedures and a schedule for determining TP and TSS treatment effectiveness of stormwater ponds will be developed with this same timeframe for completion and documentation. Inspection procedures that meet the requirements of the Permit (Part III.D.6.e.(1)-(3) will also be developed within 12 months of the date Permit coverage is extended.

10. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

    James Kosluchar (Director of Public Works / City Engineer)

VI. Compliance Schedule for an Approved Total Maximum Daily Load (TMDL) with an Applicable Waste Load Allocation (WLA) (Part II.D.6.)

A. Do you have an approved TMDL with a Waste Load Allocation (WLA) prior to the effective date of the Permit? ☐ Yes ☒ No

1. If **no**, continue to section VII.
2. If **yes**, fill out and attach the MS4 Permit TMDL Attachment Spreadsheet with the following naming convention**:** *MS4NameHere_TMDL.*

   This form is found on the MPCA MS4 website: http://www.pca.state.mn.us/ms4.

VII. Alum or Ferric Chloride Phosphorus Treatment Systems (Part II.D.7.)

A. Do you own and/or operate any Alum or Ferric Chloride Phosphorus Treatment Systems which are regulated by this Permit (Part III.F.)? ☐ Yes ☒ No

1. If **no**, this section requires no further information.
2. If **yes**, you own and/or operate an Alum or Ferric Chloride Phosphorus Treatment System within your small MS4, then you must submit the Alum or Ferric Chloride Phosphorus Treatment Systems Form supplement to this document, with the following naming convention: *MS4NameHere_TreatmentSystem*.

   This form is found on the MPCA MS4 website: http://www.pca.state.mn.us/ms4.

VIII. Add any Additional Comments to Describe Your Program

Appendix D

City of Fridley Codes Related to Water Resources

FRIDLEY CITY CODE
CHAPTER 205. ZONING

SECTION 205.27 0-1 FLOODPLAIN MANAGEMENT OVERLAY DISTRICT (Ref Ord 55, 728, 1056 and 1325

SECTION 1.0 STATUTORY AUTHORIZATION, FINDINGS OF FACT AND PURPOSE

1.1 Statutory Authorization: The legislature of the State of Minnesota has, in Minnesota Statutes Chapter 103F and Chapter 462 delegated the responsibility to local government units to adopt regulations designed to minimize flood losses. Therefore, the City Council of Fridley, Minnesota, does ordain as follows.

1.2 Purpose:

1.21 This ordinance regulates development in the flood hazard areas of Fridley, Minnesota. These flood hazard areas are subject to periodic inundation, which may result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base. It is the purpose of this ordinance to promote the public health, safety, and general welfare by minimizing these losses and disruptions.

1.22 National Flood Insurance Program Compliance. This ordinance is adopted to comply with the rules and regulations of the National Flood Insurance Program codified as 44 Code of Federal Regulations Parts 59-78, as amended, so as to maintain the community's eligibility in the National Flood Insurance Program.

1.23 This ordinance is also intended to preserve the natural characteristic and function of water courses and floodplains in order to moderate flood and storm water impacts, improve water quality, reduce soil erosion, protect aquatic and riparian habitat, provide recreational opportunities, provide aesthetic benefits and enhance community and economic development.

SECTION 2.0 GENERAL PROVISIONS

2.1 How to Use This Ordinance: This ordinance adopts the floodplain maps applicable to Fridley and includes three floodplain districts: Floodway, Flood Fringe, and General Floodplain.

2.11 Where Floodway and Flood Fringe districts are delineated on the floodplain maps, the standards in Sections 4 or 5 will apply, depending on the location of a property.

2.12 Locations where Floodway and Flood Fringe districts are not delineated on the floodplain maps are considered to fall within the General Floodplain district. Within the General Floodplain district, the Floodway District standards in Section 4 apply unless the floodway boundary is determined, according to the process outlined in Section 6. Once the floodway boundary is determined, the Flood Fringe District standards in Section 5 may apply outside the floodway.

2.2 Lands to Which Ordinance Applies: This ordinance applies to all lands within the City of Fridley shown on the official zoning map which are within the boundaries of the Floodway, Flood Fringe, or General Floodplain districts.

2.3 Incorporation of Maps by Reference: The following maps together with all attached material are hereby adopted by reference and declared to be a part of the Official Zoning Map and this ordinance. The attached material includes the Flood Insurance Study for Anoka County, Minnesota, and Incorporated Areas and the Flood Insurance Rate Map enumerated below, all dated December 16, 2015 and all prepared by the Federal Emergency Management Agency. These materials are on file in the Planning Division of the City Office.

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27003C0403E
27003C0411E

Approved Letters of Map Change (LOMC) existing on December 16, 2015 are also herein incorporated by reference.

2.4 Regulatory Flood Protection Elevation: The regulatory flood protection elevation (RFPE) is an elevation no lower than one foot above the elevation of the regional flood plus any increases in flood elevation caused by encroachments on the floodplain that result from designation of a floodway.

2.5 Interpretation: The boundaries of the zoning districts are determined by scaling distances on the Flood Insurance Rate Map.

2.51 Where a conflict exists between the floodplain limits illustrated on the official zoning map and actual field conditions, the flood elevations shall be the governing factor. The Zoning Administrator must interpret the boundary location based on the ground elevations that existed on the site on the date of the first National Flood Insurance Program map showing the area within the regulatory floodplain, and other available technical data.

2.52 Persons contesting the location of the district boundaries will be given a reasonable opportunity to present their technical evidence to the Federal Emergency Management Agency, according to the Code of Federal Regulations 44, part 65, and may apply to FEMA for revisions, changes, or amendments to maps in Section 2.3 .

2.6 Abrogation and Greater Restrictions: It is not intended by this ordinance to repeal, abrogate, or impair any existing easements, covenants, or other private agreements. However, where this ordinance imposes greater restrictions, the provisions of this ordinance prevail. All other ordinances inconsistent with this ordinance are hereby repealed to the extent of the inconsistency only.

2.7 Warning and Disclaimer of Liability: This ordinance does not imply that areas outside the floodplain districts or land uses permitted within such districts will be free from flooding or flood damages. This ordinance does not create liability on the part of the City of Fridley or its officers or employees for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made hereunder.

2.8 Severability: If any section, clause, provision, or portion of this ordinance is adjudged unconstitutional or invalid by a court of law, the remainder of this ordinance shall not be affected and shall remain in full force.

2.9 Definitions: Unless specifically defined below, words or phrases used in this ordinance must be interpreted according to common usage and so as to give this ordinance its most reasonable application.

2.911 Accessory Use or Structure - A subordinate building or use which is located on the same lot as the principal building or use and is necessary or incidental to the conduct of the principal building or use.

2.912 Base Flood Elevation - The elevation of the "regional flood." The term "base flood elevation" is used in the flood insurance survey.

2.913 Basement - any area of a structure, including crawl spaces, having its floor or base subgrade (below ground level) on all four sides, regardless of the depth of excavation below ground level.

2.914 Provisional Use - a specific type of structure or land use listed in the official control that may be allowed but only after an in-depth review procedure and with appropriate conditions or restrictions as provided in the official zoning controls or building codes and upon a finding that:

(a) The certain conditions as detailed in the zoning ordinance exist.

(b) The structure and/or land use conform to the comprehensive land use plan if one exists and are compatible with the existing neighborhood.

2.915 Critical Facilities - facilities necessary to a community's public health and safety, those that store or produce highly volatile, toxic or water-reactive materials, and those that house occupants that may be insufficiently mobile to avoid loss of life or injury. Examples of critical facilities include hospitals, correctional facilities, schools, daycare facilities, nursing homes, fire and police stations, wastewater treatment facilities, public electric utilities, water plants, fuel storage facilities, and waste handling and storage facilities.

2.916 Development - any manmade change to improved or unimproved real estate, including buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.

2.917 Equal Degree of Encroachment - a method of determining the location of floodway boundaries so that floodplain lands on both sides of a stream are capable of conveying a proportionate share of flood flows.

2.918 Fence - A structure, partition, or wall erected for the purpose of enclosing a piece of land or to divide a piece of land into distinct portions. The term "fence" includes an enclosure made of a permanent material, such as wood or iron.

2.919 Fence, Open - A structure of rails, planks, stakes, strung wire, or similar material erected as an enclosure, barrier, or boundary. Open fences are those with 50 percent or less of their surface area open for free passage of light, air, and water. Examples of such fences include but are not limited to picket and split rail fences. An open type fence of posts and wire is not considered to be a structure under this ordinance. Fences that have the potential to obstruct flood flows, such as chain link fences and rigid walls, are regulated as structures under this ordinance.

2.920 Flood - a temporary increase in the flow or stage of a stream or in the stage of a wetland or lake that results in the inundation of normally dry areas.

2.921 Flood Frequency - the frequency for which it is expected that a specific flood stage or discharge may be equaled or exceeded.

2.922 Flood Fringe - that portion of the floodplain outside of the floodway. Flood fringe is synonymous with the term "floodway fringe" used in the Flood Insurance Study for Anoka County, Minnesota.

2.923 Flood Prone Area - any land susceptible to being inundated by water from any source (see "Flood").

2.924 Floodplain - the beds proper and the areas adjoining a wetland, lake or watercourse which have been or hereafter may be covered by the regional flood.

2.925 Floodproofing - a combination of structural provisions, changes, or adjustments to properties and structures subject to flooding, primarily for the reduction or elimination of flood damages.

2.926 Floodway - the bed of a wetland or lake and the channel of a watercourse and those portions of the adjoining floodplain which are reasonably required to carry or store the regional flood discharge.

2.927 Lowest Floor - the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, used solely for parking of vehicles, building access, or storage in an area other than a basement area, is not considered a building's lowest floor.

2.928 Manufactured Home – a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured home" does not include the term "recreational vehicle."

2.929 Obstruction - any dam, wall, wharf, embankment, levee, dike, pile, abutment, projection, excavation, channel modification, culvert, building, wire, fence, stockpile, refuse, fill, structure, or matter in, along, across, or projecting into any channel, watercourse, or regulatory floodplain which may impede, retard, or change the direction of the flow of water, either in itself or by catching or collecting debris carried by such water.

2.930 One Hundred Year Floodplain - lands inundated by the "Regional Flood" (see definition).

2.931 Principal Use or Structure - all uses or structures that are not accessory uses or structures.

2.932 Reach - a hydraulic engineering term to describe a longitudinal segment of a stream or river influenced by a natural or man-made obstruction. In an urban area, the segment of a stream or river between two consecutive bridge crossings would most typically constitute a reach.

2.933 Recreational Vehicle - a vehicle that is built on a single chassis, is 400 square feet or less when measured at the largest horizontal projection, is designed to be self-propelled or permanently towable by a light duty truck, and is designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use. For the purposes of this ordinance, the term recreational vehicle is synonymous with the term "travel trailer/travel vehicle."

2.934 Regional Flood - a flood which is representative of large floods known to have occurred generally in Minnesota and reasonably characteristic of what can be expected to occur on an average frequency in the magnitude of the 1% chance or 100-year recurrence interval. Regional flood is synonymous with the term "base flood" used in a flood insurance study.

2.935 Regulatory Flood Protection Elevation (RFPE) - an elevation not less than one foot above the elevation of the regional flood plus any increases in flood elevation caused by encroachments on the floodplain that result in designation of a floodway.

2.936 Repetitive Loss -Flood related damages sustained by a structure on two separate occasions during a ten year period for which the cost of repairs at the time of each such flood event on the average equals or exceeds 25% of the market value of the structure before the damage occurred.

2.937 Special Flood Hazard Area - a term used for flood insurance purposes synonymous with "One Hundred Year Floodplain."

2.938 Structure - anything constructed or erected on the ground or attached to the ground or on-site utilities, including, but not limited to, buildings, sheds, detached garages, cabins, manufactured homes, recreational vehicles not meeting the exemption criteria specified in Section 9.22 of this ordinance and other similar items.

2.939 Substantial Damage - means damage of any origin sustained by a structure where the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

2.940 Substantial Improvement - within any consecutive 365-day period, any reconstruction, rehabilitation (including normal maintenance and repair), repair after damage, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures that have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either:

(a) Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions.

(b) Any alteration of a "historic structure," provided that the alteration will not preclude the structure's continued designation as a "historic structure." For the purpose of this ordinance, "historic structure" is as defined in 44 Code of Federal Regulations, Part 59.1.

2.10 Annexations: The Flood Insurance Rate Map panels adopted by reference into Section 2.3 above may include floodplain areas that lie outside of the corporate boundaries of the City of Fridley at the time of adoption of this ordinance. If any of these floodplain land areas are annexed into the City after the date of adoption of this ordinance, the newly annexed floodplain lands will be subject to the provisions of this ordinance immediately upon the date of annexation.

SECTION 3.0 ESTABLISHMENT OF FLOOD OVERLAY DISTRICTS

3.1 Districts:

3.11 Floodway District. The Floodway District includes those areas designated as floodway on the Flood Insurance Rate Map adopted in Section 2.3.

3.12 Flood Fringe District. The Flood Fringe District includes those areas designated as Special Flood Hazard Areas on the Flood Insurance Rate Map adopted in Section 2.3, as being within Zones AE, AO, or AH and are adjacent to a floodway

3.13 General Floodplain District. The General Floodplain District are the Special Flood Hazard Areas designated as Zone A or Zone AE, AO, or AH which are not adjacent to a floodway on the Flood Insurance Rate Map adopted in Section 2.3.

3.2 Compliance: Within the floodplain districts established in this ordinance, the use of any land, the use, size, type and location of structures on lots, the installation and maintenance of transportation, utility, water supply and waste treatment facilities, and the subdivision of land must comply with the terms of this ordinance and other applicable regulations. All uses not listed as permitted uses or provisional uses in Sections 4.0, 5.0 and 6.0, respectively, are prohibited.

In addition, a caution is provided here that:

3.21 New and replacement manufactured homes and certain recreational vehicles are subject to the general provisions of this ordinance and specifically Section 9.0.

3.22 Modifications, additions, structural alterations, normal maintenance and repair, or repair after damage to existing nonconforming structures and nonconforming uses of structures or land are regulated by the general provisions of this ordinance and specifically Section 11.0.

3.23 All structures must be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

3.24 As-built elevations for elevated or floodproofed structures must be certified by ground surveys and flood-proofing techniques must be designed and certified by a registered professional engineer or architect as specified in the general provisions of this ordinance and specifically as stated in Section 10.0 of this ordinance.

3.25 Critical facilities, as defined in Section 2.915, are prohibited in all floodplain districts.

SECTION 4.0 FLOODWAY DISTRICT (FW)

4.1 Permitted Uses: The following uses, subject to the standards set forth in Section 4.2, are permitted uses if otherwise allowed in the underlying zoning district or any applicable overlay district:

4.11 General farming, pasture, grazing, outdoor plant nurseries, horticulture, truck farming, forestry, sod farming, and wild crop harvesting.

4.12 Industrial-commercial loading areas and parking areas.

4.13 Open space uses, including but not limited to private and public golf courses, tennis courts, driving ranges, archery ranges, picnic grounds, boat launching ramps, swimming areas, parks, wildlife and nature preserves, game farms, fish hatcheries, shooting preserves, hunting and fishing areas, and single or multiple purpose recreational trails.

4.14 Residential lawns, gardens, parking areas, and play areas.

4.15 Railroads, streets, bridges, utility transmission lines and pipelines, provided that the Department of Natural Resources' Area Hydrologist is notified at least ten days prior to issuance of any permit if any portions of improvements are above existing grade of land and/or the bottom of a water body, and that the standards in Section 8.0 of this ordinance are met.

4.2 Standards for Floodway Permitted Uses:

4.21 The use must have low flood damage potential.

4.22 With the exception of the uses listed in Section 4.15, the use must not obstruct flood flows or increase flood elevations and must not involve structures, fill, obstructions, excavations or storage of materials or equipment.

4.23 Any facility that will be used by employees or the general public must be designed with a flood warning system that provides adequate time for evacuation if the area is inundated to a depth and velocity such that the depth (in feet) multiplied by the velocity (in feet per second) would exceed a product of four upon occurrence of the regional (1% chance) flood.

4.3 Provisional Uses: The following uses, may be allowed as provisional uses following the standards and procedures set forth in Section 10.4 of this ordinance and further subject to the standards set forth in Section 4.4, if otherwise allowed in the underlying zoning district or any applicable overlay district.

(a) Structures accessory to the uses listed in 4.1 above and the uses listed in 4.3(b) - (f) below.

(b) Extraction and storage of sand, gravel, and other materials.

(c) Marinas, boat rentals, docks, piers, wharves, and water control structures.

(d) Storage yards for equipment, machinery, or materials.

(e) Placement of fill or construction of fences that obstruct flood flows.

(f) Levees or dikes intended to protect agricultural crops for frequency flood events equal to or less than the 10-year frequency flood event.

4.4 Standards for Floodway Provisional Uses:

4.41 All Uses. A provisional use must not cause any increase in the stage of the 1% chance or regional flood or cause an increase in flood damages in the reach or reaches affected.

4.42 Fill; Storage of Materials and Equipment:

(a) The storage or processing of materials that are, in time of flooding, flammable, explosive, or potentially injurious to human, animal, or plant life is prohibited.

(b) Fill, dredge spoil, and other similar materials deposited or stored in the floodplain must be protected from erosion by vegetative cover, mulching, riprap or other acceptable method. Permanent sand and gravel operations and similar uses must be covered by a long-term site development plan.

(c) Temporary placement of fill, other materials, or equipment which would cause an increase to the stage of the 1% percent chance or regional flood may only be allowed if the City has approved a plan that assures removal of the materials from the floodway based upon the flood warning time available.

4.43 Accessory Structures:

(a) Accessory structures must not be designed for human habitation.

(b) Accessory structures, if permitted, must be constructed and placed on the building site so as to offer the minimum obstruction to the flow of flood waters:

(1) Whenever possible, structures must be constructed with the longitudinal axis parallel to the direction of flood flow; and

(2) So far as practicable, structures must be placed approximately on the same flood flow lines as those of adjoining structures.

(c) Accessory structures must be elevated on fill or structurally dry floodproofed in accordance with the FP-1 or FP-2 floodproofing classifications in the State Building Code. All floodproofed accessory structures must meet the following additional standards:

(1) The structure must be adequately anchored to prevent flotation, collapse or lateral movement and designed to equalize hydrostatic flood forces on exterior walls; and

(2) Any mechanical and utility equipment in the structure must be elevated to or above the regulatory flood protection elevation or properly floodproofed.

(d) As an alternative, an accessory structure may be internally/wet floodproofed to the FP-3 or FP-4 floodproofing classifications in the State Building Code, provided the accessory structure constitutes a minimal investment and does not exceed 576 square feet in size. A detached garage may only be used for parking of vehicles and limited storage. All structures must meet the following standards:

(1) To allow for the equalization of hydrostatic pressure, there must be a minimum of two "automatic" openings in the outside walls of the structure, with a total net area of not less than one square inch for every square foot of enclosed area subject to flooding; and

(2) There must be openings on at least two sides of the structure and the bottom of all openings must be no higher than one foot above the lowest adjacent grade to the structure. Using human intervention to open a garage door prior to flooding will not satisfy this requirement for automatic openings.

4.44 Structural works for flood control that will change the course, current or cross section of protected wetlands or public waters are subject to the provisions of Minnesota Statutes, Section 103G.245.

4.45 A levee, dike or floodwall constructed in the floodway must not cause an increase to the 1% chance or regional flood. The technical analysis must assume equal conveyance or storage loss on both sides of a stream.

4.46 Floodway developments must not adversely affect the hydraulic capacity of the channel and adjoining floodplain of any tributary watercourse or drainage system.

SECTION 5.0 FLOOD FRINGE DISTRICT (FF)

5.1 Permitted Uses: Permitted uses are those uses of land or structures allowed in the underlying zoning district(s) that comply with the standards in Section 5.2.

5.2 Standards for Flood Fringe Permitted Uses:

5.21 All structures, including accessory structures, must be elevated on fill so that the lowest floor, as defined, is at or above the regulatory flood protection elevation. The finished fill elevation for structures must be no lower than one foot below the regulatory flood protection elevation and the fill must extend at the same elevation at least 15 feet beyond the outside limits of the structure unless alternative methods of protection are provided in accordance with Section 5.46.

(a) All service utilities, including ductwork, must be elevated or water-tight to prevent infiltration of floodwaters.

(b) As an alternative to elevation on fill, an accessory structure that constitutes a minimal investment and that does not exceed 576 square feet in size may be internally floodproofed in accordance with Section 4.43.

5.22 The cumulative placement of fill or similar material on a parcel must not exceed 1,000 cubic yards, unless the fill is specifically intended to elevate a structure in accordance with Section 5.21 of this ordinance, or if allowed as a provisional use under Section 5.33 below.

5.23 The storage of any materials or equipment must be elevated on fill to the regulatory flood protection elevation.

5.24 The storage or processing of materials that are, in time of flooding, flammable, explosive, or potentially injurious to human, animal, or plant life is prohibited.

5.25 Fill must be properly compacted and the slopes must be properly protected by the use of riprap, vegetative cover or other acceptable method.

5.26 All new principal structures must have vehicular access at or above an elevation not more than two feet below the regulatory flood protection elevation, or must have a flood warning /emergency evacuation plan acceptable to the City.

5.27 Accessory uses such as yards, railroad tracks, and parking lots may be at an elevation lower than the regulatory flood protection elevation. However, any facilities used by employees or the general public must be designed with a flood warning system that provides adequate time for evacuation if the area is inundated to a depth and velocity such that the depth (in feet) multiplied by the velocity (in feet per second) would exceed a product of four upon occurrence of the regional (1% chance) flood.

5.28 Interference with normal manufacturing/industrial plant operations must be minimized, especially along streams having protracted flood durations. In considering permit applications, due consideration must be given to the needs of industries with operations that require a floodplain location.

5.29 Flood fringe developments must not adversely affect the hydraulic capacity of the channel and adjoining floodplain of any tributary watercourse or drainage system.

5.30 Manufactured homes and recreational vehicles must meet the standards of Section 9 of this ordinance.

5.3 Provisional Uses: The following uses and activities may be allowed as provisional uses, if allowed in the underlying zoning district(s) or any applicable overlay district, following the procedures in Section 10.4 of this ordinance. Provisional uses must meet the standards in Sections 5.21 through 5.30 and Section 5.4.

5.31 Any structure that is not elevated or floodproofed in accordance with Section 5.21 of this ordinance.

5.32 Storage of any material or equipment below the regulatory flood protection elevation.

5.33 The cumulative placement of more than 1,000 cubic yards of fill when the fill is not being used to elevate a structure in accordance with Section 5.21 of this ordinance.

5.4 Standards for Flood Fringe Provisional Uses:

5.41 The standards listed in Sections 5.24 through 5.30 apply to all provisional uses.

5.42 Basements, as defined by Section 2.913 of this ordinance, are subject to the following:

(a) Residential basement construction is not allowed below the regulatory flood protection elevation.

(b) Non-residential basements may be allowed below the regulatory flood protection elevation provided the basement is structurally dry floodproofed in accordance with Section 5.43 of this ordinance.

5.43 All areas of nonresidential structures, including basements, to be placed below the regulatory flood protection elevation must be floodproofed in accordance with the structurally dry floodproofing classifications in the State Building Code. Structurally dry floodproofing must meet the FP-1 or FP-2 floodproofing classification in the State Building Code, which requires making the structure watertight with the walls substantially impermeable to the passage of water and with structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy. Structures wet floodproofed to the FP-3 or FP-4 classification are not permitted.

5.44 The placement of more than 1,000 cubic yards of fill or other similar material on a parcel (other than for the purpose of elevating a structure to the regulatory flood protection elevation) must comply with an approved erosion/sedimentation control plan.

(a) The plan must clearly specify methods to be used to stabilize the fill on site for a flood event at a minimum of the regional (1% chance) flood event.

(b) The plan must be prepared and certified by a registered professional engineer or other qualified individual acceptable to the City.

(c) The plan may incorporate alternative procedures for removal of the material from the floodplain if adequate flood warning time exists.

5.45 Storage of materials and equipment below the regulatory flood protection elevation must comply with an approved emergency plan providing for removal of such materials within the time available after a flood warning.

5.46 Alternative elevation methods other than the use of fill may be utilized to elevate a structure's lowest floor above the regulatory flood protection elevation. These alternative methods may include the use of stilts, pilings, parallel walls, etc., or above-grade, enclosed areas such as crawl spaces or tuck under garages. The base or floor of an enclosed area shall be considered above-grade and not a structure’s basement or lowest floor if: 1) the enclosed area is above-grade on at least one side of the structure; 2) it is designed to internally flood and is constructed with flood resistant materials; and 3) it is used solely for parking of vehicles, building access or storage. The above-noted alternative elevation methods are subject to the following additional standards:

(a) Design and Certification - The structure’s design and as-built condition must be certified by a registered professional engineer or architect as being in compliance with the general design standards of the State Building Code and, specifically, that all electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities must be at or above the regulatory flood protection elevation or be designed to prevent flood water from entering or accumulating within these components during times of flooding.

(b) Specific Standards for Above-grade, Enclosed Areas - Above-grade, fully enclosed areas such as crawl spaces or tuck under garages must be designed to internally flood and the design plans must stipulate:

(1) The minimum area of openings in the walls where internal flooding is to be used as a floodproofing technique. There shall be a minimum of two openings on at least two sides of the structure and the bottom of all openings shall be no higher than one foot above grade. The automatic openings shall have a minimum net area of not less than one square inch for every square foot of enclosed area subject to flooding unless a registered professional engineer or architect certifies that a smaller net area would suffice. The automatic openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of flood waters without any form of human intervention; and

(2) That the enclosed area will be designed of flood resistant materials in accordance with the FP-3 or FP-4 classifications in the State Building Code and shall be used solely for building access, parking of vehicles or storage.

SECTION 6.0 GENERAL FLOODPLAIN DISTRICT (GF)

6.1 Permitted Uses:

6.11 The uses listed in Section 4.1 of this ordinance, Floodway District Permitted Uses, are permitted uses.

6.12 All other uses are subject to the floodway/flood fringe evaluation criteria specified in Section 6.2 below. Section 4.0 applies if the proposed use is determined to be in the Floodway District. Section 5.0 applies if the proposed use is determined to be in the Flood Fringe District.

6.2 Procedures for Floodway and Flood Fringe Determinations:

6.21 Upon receipt of an application for a permit or other approval within the General Floodplain District, the Zoning Administrator must obtain, review and reasonably utilize any regional flood elevation and floodway data available from a federal, state, or other source.

6.22 If regional flood elevation and floodway data are not readily available, the applicant must furnish additional information, as needed, to determine the regulatory flood protection elevation and whether the proposed use would fall within the Floodway or Flood Fringe District. Information must be consistent with accepted hydrological and hydraulic engineering standards and the standards in 6.23 below.

6.23 The determination of floodway and flood fringe must include the following components, as applicable:

(a) Estimate the peak discharge of the regional (1% chance) flood.

(b) Calculate the water surface profile of the regional flood based upon a hydraulic analysis of the stream channel and overbank areas.

(c) Compute the floodway necessary to convey or store the regional flood without increasing flood stages more than one-half (0.5) foot. A lesser stage increase than 0.5 foot is required if, as a result of the stage increase, increased flood damages would result. An equal degree of encroachment on both sides of the stream within the reach must be assumed in computing floodway boundaries.

6.24 The Zoning Administrator will review the submitted information and assess the technical evaluation and the recommended Floodway and/or Flood Fringe District boundary. The assessment must include the cumulative effects of previous floodway encroachments. The Zoning Administrator may seek technical assistance from a designated engineer or other expert person or agency, including the Department of Natural Resources. Based on this assessment, the Zoning Administrator may approve or deny the application.

6.25 Once the Floodway and Flood Fringe District boundaries have been determined, the Zoning Administrator must process the permit application consistent with the applicable provisions of Section 4.0 and 5.0 of this ordinance.

SECTION 7.0 LAND DEVELOPMENT STANDARDS

7.1 In General: Recognizing that flood prone areas may exist outside of the designated floodplain districts, the requirements of this section apply to all land within the City of Fridley.

7.2 Subdivisions: No land may be subdivided which is unsuitable for reasons of flooding or inadequate drainage, water supply or sewage treatment facilities. Manufactured home parks and recreational vehicle parks or campgrounds are considered subdivisions under this ordinance.

7.21 All lots within the floodplain districts must be able to contain a building site outside of the Floodway District at or above the regulatory flood protection elevation.

7.22 All subdivisions must have road access both to the subdivision and to the individual building sites no lower than two feet below the regulatory flood protection elevation, unless a flood warning emergency plan for the safe evacuation of all vehicles and people during the regional (1% chance) flood has been approved by the City. The plan must be prepared by a registered engineer or other qualified individual, and must demonstrate that adequate time and personnel exist to carry out the evacuation.

7.23 For all subdivisions in the floodplain, the Floodway and Flood Fringe District boundaries, the regulatory flood protection elevation and the required elevation of all access roads must be clearly labeled on all required subdivision drawings and platting documents.

7.24 In the General Floodplain District, applicants must provide the information required in Section 6.2 of this ordinance to determine the regional flood elevation, the Floodway and Flood Fringe District boundaries and the regulatory flood protection elevation for the subdivision site.

7.25 If a subdivision proposal or other proposed new development is in a flood prone area, any such proposal must be reviewed to assure that:

(a) All such proposals are consistent with the need to minimize flood damage within the flood prone area,

(b) All public utilities and facilities, such as sewer, gas, electrical, and water systems are located and constructed to minimize or eliminate flood damage, and

(c) Adequate drainage is provided to reduce exposure of flood hazard.

7.3 Building Sites: If a proposed building site is in a flood prone area, all new construction and substantial improvements (including the placement of manufactured homes) must be:

(a) Designed (or modified) and adequately anchored to prevent floatation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;
(b) Constructed with materials and utility equipment resistant to flood damage;

(c) Constructed by methods and practices that minimize flood damage; and

(d) Constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

SECTION 8.0 PUBLIC UTILITIES, RAILROADS, ROADS, AND BRIDGES

8.1 Public Utilities: All public utilities and facilities such as gas, electrical, sewer, and water supply systems to be located in the floodplain must be floodproofed in accordance with MN Rules 1335 or elevated to the regulatory flood protection elevation.

8.2 Public Transportation Facilities: Railroad tracks, roads, and bridges to be located within the floodplain must comply with Sections 4.0 and 5.0 of this ordinance. These transportation facilities must be elevated to the regulatory flood protection elevation where failure or interruption of these facilities would result in danger to the public health or safety or where such facilities are essential to the orderly functioning of the area. Minor or auxiliary roads or railroads may be constructed at a lower elevation where failure or interruption of transportation services would not endanger the public health or safety.

8.3 On-site Water Supply and Sewage Treatment Systems: Where public utilities are not provided: 1) On-site water supply systems must be designed to minimize or eliminate infiltration of flood waters into the systems; and 2) New or replacement on-site sewage treatment systems must be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters and they must not be subject to impairment or contamination during times of flooding. Any sewage treatment system designed in accordance with the state's current statewide standards for on-site sewage treatment systems is considered to be in compliance with this Section.

SECTION 9.0 MANUFACTURED HOMES, MANUFACTURED HOME PARKS, AND RECREATIONAL VEHICLES

9.1 Manufactured Homes: New manufactured home parks and expansions to existing manufactured home parks are prohibited in any floodplain district. For existing manufactured home parks or lots of record, the following requirements apply:

9.11 Placement or replacement of manufactured home units is prohibited in the Floodway District.

9.12 If allowed in the Flood Fringe District, placement or replacement of manufactured home units is subject to the requirements of Section 5 of this ordinance and the following standards.

(a) New and replacement manufactured homes must be elevated in compliance with Section 5 of this ordinance and must be securely anchored to an adequately anchored foundation system that resists flotation, collapse and lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state or local anchoring requirements for resisting wind forces.

(b) New or replacement manufactured homes in existing manufactured home parks must meet the vehicular access requirements for subdivisions in Section 7.22.

9.2 Recreational Vehicles: New recreational vehicle parks or campgrounds and expansions to existing recreational vehicle parks or campgrounds are prohibited in any floodplain district. Placement of recreational vehicles in existing recreational vehicle parks or campgrounds in the floodplain must meet the exemption criteria below or be treated as new structures meeting the requirements of this ordinance.

9.21 Recreational vehicles are exempt from the provisions of this ordinance if they are placed in any of the following areas and meet the criteria listed in Section 9.22:

(a) Individual lots or parcels of record.

(b) Existing commercial recreational vehicle parks or campgrounds.

(c) Existing condominium-type associations.

9.22 Criteria for Exempt Recreational Vehicles:

(a) The vehicle must have a current license required for highway use.

(b) The vehicle must be highway ready, meaning on wheels or the internal jacking system, attached to the site only by quick disconnect type utilities commonly used in campgrounds and recreational vehicle parks.

(c) No permanent structural type additions may be attached to the vehicle.

(d) The vehicle and associated use must be permissible in any pre-existing, underlying zoning district.

(e) Accessory structures are not permitted within the Floodway District. Any accessory structure in the Flood Fringe District must be constructed of flood-resistant materials and be securely anchored, meeting the requirements applicable to manufactured homes in Section 9.22.

(f) An accessory structure must constitute a minimal investment.

9.23 Recreational vehicles that are exempt in Section 9.22 lose this exemption when development occurs on the site that exceeds a minimal investment for an accessory structure such as a garage or storage building. The recreational vehicle and all accessory structures will then be treated as new structures subject to the elevation and floodproofing requirements of Section 5.0 of this ordinance. No development or improvement on the parcel or attachment to the recreational vehicle is allowed that would hinder the removal of the vehicle should flooding occur.

SECTION 10.0 ADMINISTRATION

10.1 Zoning Administrator: The Zoning Administrator or other official designated by the City Council to administer and enforce this ordinance.

10.2 Permit Requirements:

10.21 Permit Required. A Building or Land Alteration Permit must be obtained from the City prior to conducting the following activities within a floodplain:

(a) The erection, addition, modification, rehabilitation, or alteration of any building, structure, or portion thereof. Normal maintenance and repair also requires a permit if such work, separately or in conjunction with other planned work, constitutes a substantial improvement as defined in this ordinance.

(b) The use or change of use of a building, structure, or land.

(c) The construction of a dam, fence, or on-site septic system, although a permit is not required for an open fence as defined in this ordinance.

(d) The change or extension of a nonconforming use.

(e) The repair of a structure that has been damaged by flood, fire, tornado, or any other source.

(f) The placement of fill, excavation of materials, or the storage of materials or equipment.

(g) Relocation or alteration of a watercourse - including new or replacement culverts and bridges), unless a public waters work permit has been applied for.

(h) Any other type of "Development" as defined in this ordinance.

10.22 Application for Permit. Permit applications must be submitted to the City on forms provided by the City.

10.23 Certificate of Zoning Compliance for a New, Altered, or Nonconforming Use. No building, land or structure may be occupied or used in any manner until a Zoning letter has been issued by the City stating that the use of the building or land conforms to the requirements of this ordinance.

10.24 Certification. The applicant is required to submit certification by a registered professional engineer, registered architect, or registered land surveyor that the finished fill and building elevations were accomplished in compliance with the provisions of this ordinance. Floodproofing measures must be certified by a registered professional engineer or registered architect.

10.25 Record of First Floor Elevation. The Zoning Administrator must maintain a record of the elevation of the lowest floor (including basement) of all new structures and alterations or additions to existing structures in the floodplain. The Zoning Administrator must also maintain a record of the elevation to which structures and alterations or additions to structures are floodproofed.

10.26 Notifications for Watercourse Alterations. Before authorizing any alteration or relocation of a river or stream, the Zoning Administrator must notify potentially impacted communities. If the applicant has applied for a permit to work in public waters pursuant to Minnesota Statutes, Section 103G.245, this will suffice as adequate notice. A copy of the notification must also be submitted to the Commissioner of the Minnesota Department of Natural Resources.

10.27 Notifications to FEMA When Physical Changes Increase or Decrease Base Flood Elevations. As soon as is practicable, but not later than six months after the date such supporting information becomes available, the Zoning Administrator must notify the Chicago Regional Office of FEMA of the changes by submitting a copy of the relevant technical or scientific data.

10.3 Variances:

10.31 Variance Applications. An application for a variance to the provisions of this ordinance will be processed and reviewed in accordance with applicable state statutes and Section 205.05.6 of the zoning ordinance.

10.32 Adherence to State Floodplain Management Standards. A variance must not allow a use that is not allowed in that district, permit a lower degree of flood protection than the regulatory flood protection elevation for the particular area, or permit standards lower than those required by state law.

10.33 Additional Variance Criteria. The following additional variance criteria of the Federal Emergency Management Agency must be satisfied:

(a) Variances must not be issued by a community within any designated regulatory floodway if any increase in flood levels during the base flood discharge would result.

(b) Variances may only be issued by a community upon (i) a showing of good and sufficient cause, (ii) a determination that failure to grant the variance would result in exceptional hardship to the applicant, and (iii) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.

(c) Variances may only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief of documented exceptional hardship.

10.34 Flood Insurance Notice. The Zoning Administrator must notify the applicant for a variance that: 1) The issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance; and 2) Such construction below the base or regional flood level increases risks to life and property. Such notification must be maintained with a record of all variance actions.

10.35 General Considerations. The community may consider the following factors in evaluating variance requests and imposing conditions on variances and provisional uses in floodplains:

(a) The potential danger to life and property due to increased flood heights or velocities caused by encroachments;

(b) The danger that materials may be swept onto other lands or downstream to the injury of others;

(c) The proposed water supply and sanitation systems, if any, and the ability of these systems to minimize the potential for disease, contamination and unsanitary conditions;

(d) The susceptibility of any proposed use and its contents to flood damage and the effect of such damage on the individual owner;

(e) The importance of the services to be provided by the proposed use to the community;

(f) The requirements of the facility for a waterfront location;

(g) The availability of viable alternative locations for the proposed use that are not subject to flooding;

(h) The compatibility of the proposed use with existing development and development anticipated in the foreseeable future;

(i) The relationship of the proposed use to the Comprehensive Land Use Plan and flood plain management program for the area;

(j) The safety of access to the property in times of flood for ordinary and emergency vehicles; and

(k) The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters expected at the site.

10.36 Submittal of Hearing Notices to the Department of Natural Resources (DNR). The Zoning Administrator must submit hearing notices for proposed variances to the DNR sufficiently in advance to provide at least ten days' notice of the hearing. The notice may be sent by electronic mail or U.S. Mail to the respective DNR area hydrologist.

10.37 Submittal of Final Decisions to the DNR. A copy of all decisions granting variances must be forwarded to the DNR within ten days of such action. The notice may be sent by electronic mail or U.S. Mail to the respective DNR area hydrologist.

10.38 Record Keeping. The Zoning Administrator must maintain a record of all variance actions, including justification for their issuance, and must report such variances in an annual or biennial report to the Administrator of the National Flood Insurance Program, when requested by the Federal Emergency Management Agency.

10.4 Provisional Uses:

10.41 Administrative Review. An application for a provisional use permit under the provisions of this ordinance will be processed and reviewed by the Zoning Administrator or designee, who will provide a copy of the provisional use permit to the Commissioner of the Department of Natural Resources within ten (10) days of its issuance..

10.42 Factors Used in Decision-Making. In passing upon provisional use applications, the City must consider all relevant factors specified in other sections of this ordinance, and those factors identified in Section 10.35 of this ordinance.

10.43 Conditions Attached to Provisional Use Permits. The City may attach such conditions to the granting of provisional use permits as it deems necessary to fulfill the purposes of this ordinance. Such conditions may include, but are not limited to, the following:

(a) Modification of waste treatment and water supply facilities.

(b) Limitations on period of use, occupancy, and operation.

(c) Imposition of operational controls, sureties, and deed restrictions.

(d) Requirements for construction of channel modifications, compensatory storage, dikes, levees, and other protective measures.

(e) Floodproofing measures, in accordance with the State Building Code and this ordinance. The applicant must submit a plan or document certified by a registered professional engineer or architect that the floodproofing measures are consistent with the regulatory flood protection elevation and associated flood factors for the particular area.

10.44 Submittal of Final Decisions to the DNR. A copy of all decisions granting provisional uses must be forwarded to the DNR within ten days of such action. The notice may be sent by electronic mail or U.S. Mail to the respective DNR area hydrologist.

SECTION 11.0 NONCONFORMITIES

11.1 Continuance of Nonconformities: A use, structure, or occupancy of land which was lawful before the passage or amendment of this ordinance but which is not in conformity with the provisions of this ordinance may be continued subject to the following conditions. Historic structures, as defined in Section 2.940 of this ordinance, are subject to the provisions of Sections 11.11 – 11.16 of this ordinance.

11.11 A nonconforming use, structure, or occupancy must not be expanded, changed, enlarged, or altered in a way that increases its flood damage potential or degree of obstruction to flood flows except as provided in 11.12 below. Expansion or enlargement of uses, structures or occupancies within the Floodway District is prohibited.

11.12 Any addition or structural alteration to a nonconforming structure or nonconforming use that would result in increasing its flood damage potential must be protected to the regulatory flood protection elevation in accordance with any of the elevation on fill or floodproofing techniques (i.e., FP-1 thru FP-4 floodproofing classifications) allowable in the State Building Code, except as further restricted in 11.13 and 11.17 below.

11.13 If the cost of all previous and proposed alterations and additions exceeds 50 percent of the market value of any nonconforming structure, then the entire structure must meet the standards of Section 4.0 or 5.0 of this ordinance for new structures depending upon whether the structure is in the Floodway or Flood Fringe District, respectively. The cost of all structural alterations and additions must include all costs such as construction materials and a reasonable cost placed on all manpower or labor.

11.14 If any nonconforming use, or any use of a nonconforming structure, is discontinued for more than one year, any future use of the premises must conform to this ordinance. The Assessor must notify the Zoning Administrator in writing of instances of nonconformities that have been discontinued for a period of more than one year.

11.15 If any nonconformity is substantially damaged, as defined in Section 2.939 of this ordinance, it may not be reconstructed except in conformity with the provisions of this ordinance. The applicable provisions for establishing new uses or new structures in Sections 4.0 or 5.0 will apply depending upon whether the use or structure is in the Floodway or Flood Fringe, respectively.

11.16 If any nonconforming use or structure experiences a repetitive loss, as defined in Section 2.936 of this ordinance, it must not be reconstructed except in conformity with the provisions of this ordinance.

11.17 Any substantial improvement, as defined in Section 2.940 of this ordinance, to a nonconforming structure requires that the existing structure and any additions must meet the requirements of Section 4.0 or 5.0 of this ordinance for new structures, depending upon whether the structure is in the Floodway or Flood Fringe District.

SECTION 12.0 PENALTIES AND ENFORCEMENT

12.1 Violation Constitutes a Misdemeanor: Violation of the provisions of this ordinance or failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with grants of variances or provisional uses) constitute a misdemeanor and will be punishable as defined by law.

12.2 Other Lawful Action: Nothing in this ordinance restricts the City from taking such other lawful action as is necessary to prevent or remedy any violation. If the responsible party does not appropriately respond to the Zoning Administrator within the specified period of time, each additional day that lapses will constitute an additional violation of this ordinance and will be prosecuted accordingly.

12.3 Enforcement: In responding to a suspected ordinance violation, the Zoning Administrator and City may utilize the full array of enforcement actions available to it including but not limited to prosecution and fines, injunctions, after-the-fact permits, orders for corrective measures or a request to the National Flood Insurance Program for denial of flood insurance availability to the guilty party. The City must act in good faith to enforce these official controls and to correct ordinance violations to the extent possible so as not to jeopardize its eligibility in the National Flood Insurance Program.

12.31 When a violation is either discovered by or brought to the attention of the Zoning Administrator, the Zoning Administrator shall immediately investigate the situation and document the nature and extent of the violation of the official control. As soon as it is reasonably possible, this information will be submitted to the State Department of Natural Resources and Federal Emergency Management Agency regional office along with the City's plan of action to correct the violation to the degree possible.

12.32 The Zoning Administrator shall notify the suspected party of the requirements of this chapter and all other official controls and the nature and extent of the suspected violation of these controls. If the structure or use is under construction or development, the Zoning Administrator may order the construction or development immediately halted until a proper permit or approval is granted by the city. If the construction or development is already completed, the Zoning Administrator may either: 1) issue an order identifying the corrective actions that must be made within a specified time period to bring the use or structure into compliance with the official controls; or 2) notify the responsible party to apply for an after the fact permit/development approval within a specified period of time not to exceed 30 days.

SECTION 13.0 AMENDMENTS

13.1 Floodplain Designation – Restrictions on Removal: The floodplain designation on the Official Zoning Map must not be removed from floodplain areas unless it can be shown that the designation is in error or that the area has been filled to or above the elevation of the regulatory flood protection elevation and is contiguous to lands outside the floodplain. Special exceptions to this rule may be permitted by the Commissioner of the Department of Natural Resources (DNR) if the Commissioner determines that, through other measures, lands are adequately protected for the intended use.

13.2 Amendments Require DNR Approval: All amendments to this ordinance must be submitted to and approved by the Commissioner of the Department of Natural Resources (DNR) prior to adoption. The Commissioner must approve the amendment prior to community approval.

13.3 Map Revisions Require Ordinance Amendments. The floodplain district regulations must be amended to incorporate any revisions by the Federal Emergency Management Agency to the floodplain maps adopted in Section 2.3 of this ordinance.

FRIDLEY CITY CODE
SECTION 205-28. 0-2 CRITICAL AREA DISTRICT REGULATIONS

1. PURPOSE AND INTENT

It is the purpose and intent of this district to prevent or mitigate irreversible damage to the Mississippi River Corridor and to preserve and enhance its values to the public. The Mississippi River Corridor is a unique and essential element in the local, regional, state and national transportation, sewer and water, and recreational systems, as well as serving important biological and ecological functions, and shall be protected and preserved in accordance with the following policies:

A. The Mississippi River Corridor shall be managed as a multi-purpose public resource that provides for the development of a variety of urban uses within the river corridor while conserving the scenic, environmental, recreational, mineral, economic, cultural, and historic resources and functions of the river corridor.

B. The Mississippi River Corridor shall be managed in a manner consistent with its natural characteristics and its existing development and in accordance with regional plans for the development of the Metropolitan Area.

C. The Mississippi River Corridor shall be managed in accordance with the Critical Areas Act of 1973, the Minnesota Environmental Policy Act of 1973, and the Governor's critical area designation, Executive Order No. 130, dated November 23, 1976, and other applicable state and federal laws.

2. DISTRICT BOUNDARIES

The boundaries of the 0-2 District shall be located on the official zoning map of the City of Fridley, and shall encompass all property located between the center line of Anoka County Trunk Highway 1 and the normal high water line of the east bank of the Mississippi River running from the north boundary to the south boundary line of the City.

3. DEFINITIONS

For the purpose of this district the following definitions shall apply:

A. Bluff.

Those steep slopes lying between the normal high water mark and the River Corridor boundary having an angle of ascent from the river of more than twelve percent (12%) from the horizontal.

B. Bluffline.

A line delineating the top of the bluff connecting the points at which the angle of ascent becomes less than twelve percent (12%). More than one (1) bluffline may be encountered.

C. Clear-cutting.

The indiscriminate cutting down of large numbers of trees in a given areas.

D. Critical Area.

The area known as the Mississippi River Corridor Critical Area designated by the Governor in the Executive Order No. 130.

E. Development.

The making of any material change in the use or appearance of any structure or land including reconstruction; alteration of the size of any structure; alteration of the land; alteration of a shore or bank of a river, stream, lake or pond; a commencement of drilling (except to obtain soil samples); mining or excavation; demolition of a structure; clearing of land as an adjunct to construction; deposit of refuse, solid or liquid waste, or fill on a parcel of land; the dividing of land into two (2) or more parcels.

F. Essential Services.

Means underground or overhead gas, electrical, steam or water distribution systems including poles, wires, mains, drains, sewer pipes, conduits, cables and other similar equipment and accessories in conjunction therewith.

G. Public Safety Facilities.

Hydrants, fire alarm boxes, street lights, railway crossings signals and similar accessories including buildings.

H. Retaining Wall.

A structure utilized to hold a slope in a position in which it would not naturally remain.

I. Terrace.

A relatively level area bordered on one (I)or more sides by retaining walls.

J. Utility Facility.

Physical facilities of electric, telephone, telegraph, cable, television, water, sewer, solid waste, gas and similar service operations.

K. Wetlands.

Low lying areas which may be covered with shallow and sometimes intermittent water. They are frequently associated with a high water table. Wetlands are generally too wet for cultivation or development without artificial drainage. Swamps, bogs, marshes, potholes, wet meadows and sloughs are wetlands.

4. USES PERMITTED

Any use permitted within the existing zoned district.

5. USES EXCLUDED

A. Any use that was excluded within the existing zoned district.

B. Any barge fleeting or barge loading.

C. Any waste storage use or treatment facilities.

D. Any mining or extraction uses other than soil preparation or peat removal.

6. SITE PLAN REQUIREMENTS

A. No building permit, zoning, or subdivision approval shall be issued for any action located in this district until a site plan has been prepared and approved in accordance with the provisions of this Section.

B. No site plans shall be required for a single family dwelling or for the extension, enlargement, change, or alteration thereof, nor accessory structures thereto.

7. SITE PLAN CONTENTS

A. Site plans shall be prepared to a scale appropriate to the size of the project and suitable for review.

B. The following information shall be provided in the site plan:

(1) Location of the property including such information as the name and numbers of adjoining roads, railroads, existing subdivisions, or other landmarks.

(2) The name and address of the owner(s) or developer(s), the Section, township and range, northpoint, date and scale of drawing and number of sheets.

(3) Existing topography as indicated on a contour map having a contour interval no greater than two (2) feet per contour. The topography map shall also clearly delineate the river and any bluffline, all streams, including intermittent streams and swales, river, waterbodies and wetlands. The topography map shall indicate the floodway and/or flood fringe lines and the normal highwater mark of the river.

(4) A plan delineating existing drainage of the water setting forth the direction, the volume, and at what rate storm water is conveyed from the site, and setting forth those areas of the site where storm water collects and is gradually percolated into the ground or slowly released to a creek, river or lake.

(5) A proposed drainage plan of the developed site delineating the direction, the volume, and at what rate storm water will be conveyed from the site and setting forth the areas of the site where storm water will be allowed to collect and gradually percolate into the ground, or be slowly released to a creek, river or lake. The plan shall also set forth the hydraulic capacity of all structures to be constructed, existing structures to be utilized, and volume of holding ponds for the design storm (i.e. six inch (6"), twenty-four (24) hour rain).

(6) A description of the soils of the site including a map indicating soil types by areas to be disturbed as well as a soil report prepared by a soil scientist containing information on the suitability of the soils for the type of development proposed and for the type of sewage disposal proposed and describing any remedial steps to be taken by the developer to render the soils suitable. All areas proposed for grading shall be identified by soil type, including the existing top soil and the soil type of the new contour. The location and extent of any erosion areas shall be indicated. The stability of rock outcroppings along blufflines and faces shall be included in the soils description.

(7) A map indicating proposed finished grade having a contour at the same intervals as provided on the existing topographic map or as required to clearly indicate the relationship of proposed changes in existing topography and remaining features.

(8) An erosion and sedimentation control plan indicating the type, location, and necessary technical information on control measures to be used during and after construction including a statement expressing the calculated anticipated gross soil loss expressed in tons per acre per year during and after construction.

(9) A delineation of the location and amounts of excavated soils to be stored on the site during construction.

(10) A description of the flora and fauna, which occupy the site or are occasionally found thereon, setting forth in detail those areas where unique plant or animal species may be found on the site.

(11) A description of any features, buildings or areas which are of historic significance.

(12) A landscape plan drawn to an appropriate scale, including dimensions, distances, location, type, size and description of all existing vegetation proposed for removal and all proposed landscape materials which will be added to the site as part of the development.

(13) The proposed size, alignment, height and intended use of any structure to be erected or located on the site.

(14) A clear delineation of all land which shall be paved or hard surfaced including a description of the surfacing material to be used.

(15) A description of the method to be provided for vehicular and pedestrian access to the proposed development and public access to river and/or public river view opportunities both before and after development. A description of the development's impact on existing view of and along the river. A description of all parking facilities to be provided as part of the development of the site including an analysis of parking needs generated by the proposed development.

(16) A delineation of the area or areas to be dedicated for public use.

(17) Any other information pertinent to the particular project which in the opinion of the City or applicant is necessary or helpful for the review of the project.

8. ADDITIONAL REQUIREMENTS FOR ALL STRUCTURES

A. Lot Size.

Lot size shall be governed by the existing zoning district.

B. Building Height.

Building height shall be governed by the existing zoning district.

C. Setbacks.

Setbacks shall be governed by the existing zoning districts except as follows:

(1) All new structures and uses shall be placed not less than forty (40) feet from the top of the bluffline overlooking the Mississippi River.

(2) All new structures and uses shall be placed not less than 100 feet from the Mississippi River normal high water line as defined by the Federal Insurance Administration's Flood Insurance Study.

(3) Exceptions to setback requirements shall include public safety facilities, public bridges and approaches, public roadways, public recreation facilities, scenic overlooks, regional and local trails; docks and boat launching facilities, approved river crossings of essential services and distribution services and historical sites designated by the National and State Register of Historic Places.

(4) The following agencies shall be notified of all variance requests to the above setback requirements: The Minnesota Department of Natural Resources and Environmental Quality Board.

D. Placement of Structures.

(1) Placement of structures in areas subject to flooding as designated in Section 205.24 of this Chapter shall be governed by the regulations of that Section.

(2) No land with slopes, before alteration, in excess of eighteen percent (18%) will be developed for use except for necessary erosion control structures which are in conformance with all other guidelines and standards. All applicable local, state and federal laws, rules and regulations and Metropolitan plan guidelines and standards must be met for bridge construction and bridge approach roadways.

(3) Development on slopes in excess of twelve percent (12%), but less than eighteen percent (18%), will be permitted provided that the applicant can meet the following conditions:

(a) The foundation and underlying material shall be adequate for the slope condition and soil type.

(b) The developer can demonstrate that development during and after construction can be accomplished without increasing erosion and that there are proper controls to reduce runoff to nondestructive levels.

(c) The proposed development presents no danger of falling rock, mud, uprooted trees and other material to structures, recreational facilities, public lands and public water down hill.

(4) Line of Sight. The development of new, or the expansion of existing structures, shall be placed so that the development is consistent with the preservation of the view of the river corridor from other properties on both sides of the river and by the public. The walling off of views of the river corridor from other properties and public right-of-ways shall be prohibited.

9. NATURAL RESOURCE MANAGEMENT

A. Grading and Filling. Grading and filling or otherwise changing the changing the topography landward of the ordinary high water mark shall not be conducted without a City permit, and in compliance with the provisions of Minnesota Regulation MR 79, Section (h), of the Wild and Scenic Rivers Regulation, paragraphs (1), (2) and (3).

B. Retaining walls and erosion control structures waterward of the normal high water mark are permitted structures 'if the applicable permits issued by the Army Corps of Engineers and the Minnesota Department of Natural Resources have been obtained.

C. Retaining walls and erosion control structures on the landward side of the normal high water mark that are visible from the water surface shall meet the following design criteria:

(1) Retaining walls or terrace contours shall not exceed five (5) feet in height.

(2) The minimum space in between retaining walls shall be twenty (20) feet.

D. Vegetative management.

(1) Clear-cutting of trees on the slope or face of bluffs and within forty (40) feet landward from the bluffline or river bank area shall not be permitted.

(2) The selective cutting of trees greater than four inches (4") in diameter may be authorized by the City, when cutting is appropriately spaced and staged to maintain a continuous natural cover.

(3) The development of new or the expansion of existing structures shall be accomplished so as to minimize the need for tree removal. If trees over four inches (4") are cut, the density of tree cover shall be restored to that which existed before cutting. The applicant shall demonstrate that all grading which takes place will be conducted in a manner that preserves the root zone aeration and stability of existing trees and provides an adequate watering area equal to at least one-half (1/2) of each tree crown cover.

(4) Exceptions to the above include the removal of diseased or damaged trees.

E. Standards for surface water management and erosion control.

(1) Storm water run-off from any new development may be directed into public water bodies and drainage systems provided that it is substantially free from silt, debris and chemical pollutants, and only at rates equal to that on the property before development.

(2) Any new development shall provide for erosion protection measures which make maximum use of natural in-place vegetation. During construction and until such time as final control measures are fully implemented and established, adequate development practices will be maintained to insure that gross soil loss levels shall not exceed five (5) tons per acre per year during construction or two (2) tons per acre per year during construction when the site is adjacent to a water body or water course; and one-half (1/2) ton per acre per year after the construction activities are completed.

(3) Structures, trails and roadways shall be sited to minimize levels of pedestrian and vehicular traffic in areas where soil compaction and loss of vegetation cover can contribute to erosion problems.

10. TRANSMISSION SERVICES, PUBLIC TRANSPORTATION, AND RIVER CROSSING

A. Transmission and Essential Services.

(1) Primary consideration shall be given to underground placement of services in order to minimize aesthetic, environmental and public safety aspects. When considering overhead placement, the developer must show the reasoning that makes underground placement unfeasible.

(2) All transmission service crossing of the Mississippi River require a permit pursuant to Minnesota Statute 84.415 or 105.42 by the Department of Natural Resources.

(3) All transmission crossing of land within the district shall require a Special Use Permit as required by this Chapter.

B. Transportation Facilities.

Transportation crossings shall be permitted in accord with NR 79, Section (j), except paragraph (ddd) under (i), route design of the Wild and Scenic River regulations.

(1) In planning and designing the construction or reconstruction of all public transportation facilities which closely parallel the river or blufflines, careful consideration should be given to the provision of scenic overlooks for motorists, safe pedestrian access from areas on the landward side of these transportation facilities and safe pedestrian facilities along the riverward of these facilities.

(2) The construction or reconstruction of all public transportation facilities shall be located and designed in such a manner that will maintain the safe use and access to the riverfront in public ownership, allow reasonable use of the land between the river and the transportation facility and maintain the aesthetic quality of the river environment.

11. PUBLIC ACCESS

A. Public pedestrian right-of-way including river access shall be provided for any new development that is adjacent to or part of an overall plan of the city for pedestrian movement within the district.

B. Public pedestrian access shall be provided to the riverfront of developments on publicly owned and publicly controlled riverfront property. Access will not be provided where:

(1) Unavoidable hazards exist to the public.

(2) Public pedestrian access at a particular location cannot be designed or developed to provide a pleasant view or recreational experience.

12. RIGHT OF WAY MAINTENANCE

A. Natural vegetation of value to fish or wildlife, which does not pose a hazard or restrict reasonable use of the property, shall be allowed to grow in the right-of-way.

B. Where vegetation has been removed, new vegetation consisting of native grasses, herbs, shrubs and low growing trees, shall be planted and maintained on the right-of-way.

C. Chemical control of vegetation should be avoided when practicable, but where such methods are necessary, chemicals used and the manner of their use must be in accordance with rules and regulations of all state and federal agencies with authority over the use.

FRIDLEY CITY CODE
205.29. 0-4 WETLAND DISTRICT

1. PURPOSE AND INTENT

It is the purpose and intent of this section to establish special controls to protect the unique and valuable wetland resources within the City of Fridley.

2. DISTRICT BOUNDARIES

The boundaries of the 0-4 district shall be located on the official overlay map of the City of Fridley and shall encompass all areas delineated within the Wetland Delineation and Evaluation Study, Westwood Engineering 1993. The boundaries of the 0-4 district are subject to change due to site-specific delineations accepted by the City.

3. POLICY

A. The preservation and use of significant wetlands is critical to the environment. The City will coordinate with federal, state and local agencies in order to achieve no net loss of wetlands.

B. Significant wetlands will be maintained in their natural condition or improved to provide more benefits for water quality management, with consideration for other amenities.

C. The City encourages sound, contemporary land use development that incorporates grassed, open, and wetland spaces to allow infiltration of precipitation in all land use categories.

D. The City proposes to preserve and enhance wetlands within the community through implementation of development regulations that will ensure the design and construction of adequate on-site storm water sedimentation and retention and detention basins, flow control devices, and implementation of effective erosion control techniques.

E. The City will comply with I and implement the 1991 Wetland Conservation Act and the accompanying rules of the Minnesota Board of Water and Soil Resources.

4. INCORPORATION BY REFERENCE

A. The 1991 Wetland Conservation Act (the Act) and Minnesota Rules, 8420.
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B. The Federal Manual for Identifying and Delineating Jurisdictional Wetlands dated January 1989, with appropriate amendments.

C. The United States Fish and Wildlife Service Classification of Wetlands and Designation Habitats, Table 4.

D. Wetlands and Deep water Habitats of the United States.

E. Minnesota Statutes, Chapter 103.

5. WETLAND OVERLAY DISTRICT REGULATIONS

A. No development shall be allowed within a wetland overlay district without first:

(1) Having the City or the Local Government Unit certify that the activity is exempt as defined in Section 205.27.04, or

(2) Having the City or the Local Government Unit certify an acceptable wetland replacement plan submitted by the applicant for compliance with the Act.

B. Prior to the issuance of a City permit, the petitioner must show proof of compliance or exemption from the DNR and Corps of Engineers regulations concerning drainage, grading, or filling of wetlands. In addition, the application must show consideration of the affected wetland values for stormwater runoff storage and detention, sedimentation and nutrient trapping and retention, fish and wildlife habitat, and the recreation and open space needs of the community.

C. Sequencing

(1) The following principles of wetland mitigation are listed in descending priority. A wetland replacement plan shall not be approved unless the applicant has demonstrated that the activity impacting a wetland has complied with the highest priority possible:

(a) Avoids direct or indirect impacts to the wetland that may destroy or diminish the wetland;

(b) Minimizes the impact to the wetland by limiting the degree or magnitude of the wetland activity and its implementation;

(c) Rectifies the impact by repairing, rehabilitating, or restoring the affected wetland;

(d) Reduces or eliminates the impact to the wetland over time by preservation and maintenance operations; and

(e) Replaces unavoidable impacts to the wetland by restoring or creating substitute wetland areas having equal or greater public value.

(2) The applicant may either submit the information required for sequencing analysis as part of the application for replacement plan approval or apply for a preliminary sequencing determination from the City. For projects impacting wetland areas less that 4,356 square feet, the City may provide on-site sequencing determinations without written documentation from the applicant.

D. Sequencing Determinations

(1) The City shall determine whether any feasible and prudent alternatives are available that would avoid impacts to wetlands. An alternative shall be considered feasible and prudent if:

(a) It is in accordance with accepted engineering standards and practices;

(b) It is consistent with reasonable requirements of the public health, safety and general welfare;

(c) It is an environmentally preferable alternative based on a review of social, economic, and environmental impacts; and

(d) It would create no truly unusual problems.

(2) The City shall consider the following in evaluating alternatives:

(a) The basic project purpose can be reasonably accomplished using one or more other sites in the same general area that would avoid wetland impacts. An alternate site may not be excluded from consideration only because it includes or requires an area not owned by the applicant that could be easily obtained, used, expanded, or managed to fulfill the basic purpose of the proposed project;

(b) The general suitability of alternate sites considered by the applicant;

(c) Whether reasonable modification of the size, scope, configuration, or density of the project would avoid impacts to wetlands;

(d) Efforts by the applicant to accommodate or remove constraints on alternatives imposed by zoning standards or infrastructure, including requests for special use permits, variances, or planned unit developments; and

(e) The physical, economic, and demographic requirements of the project. Economic considerations alone do not make an alternative not feasible and prudent.

(3) If the City determines that a feasible and prudent alternative exists that would avoid impacts to wetlands, it shall deny the replacement plan.

(4) If no feasible and prudent alternative is available that would avoid impacts to wetlands, the City shall evaluate the replacement plan to determine that it will minimize impacts to wetlands. The City shall use the following criteria to determine the sufficiency of the applicant's efforts to minimize impacts to wetlands:

(a) The spatial requirements of the project;

(b) The location of existing structural or natural features that may dictate the placement or configuration of the project;

(c) The purpose, of the project and how the purpose relates to the placement, configuration, or density;

(d) The sensitivity of the site design to the natural features of the site, including topography, hydrology, and existing vegetation;

(e) The value, function, and spatial distribution of wetlands on the site;

(f) Individual and cumulative impacts, and

(g) An applicant's efforts to:

((1)) Modify the size, scope, configuration or density of the project;

((2)) Remove or accommodate site constraints including zoning, infrastructure, access, or other features; and

((3)) Minimize other impacts.

(5) If the City finds that an applicant has not complied with the requirements to minimize wetland impacts, the City shall list, in writing, its objections to the project. If, within 30 days, the applicant does not withdraw the project proposal or indicate intent to submit an amended project proposal satisfying the City's objections, the statement of objections shall constitute a denial.

(6) Temporary impacts to a wetland shall be rectified by repairing, rehabilitating, or restoring the affected wetlands The City may determine that an applicant's activity may qualify for a no-loss determination if the following criteria are met:

(a) The physical characteristics of the affected wetlands including ground elevations, contours, inlet dimensions, outlet dimensions, substrate, hydrologic regime, are restored to pre-project conditions sufficient to ensure that all pre-project functions and values are restored;

(b) The activity is completed and the physical characteristics of the wetland are restored within six months-of the start of the activity;

(c) The party responsible for the activity provides a performance bond to the City for an amount sufficient to cover the estimated cost to restore the wetland to preproject conditions. The City shall return the performance bond to the responsible party upon a determination by the City that the conditions in Section 205.27.5.D. (6). (c) and Section 205.27.5.D.(4).

(d) An applicant shall be granted a no-loss determination under the criteria a through c above once in a ten-year period for a particular site within a wetland, except that repairs to the original project shall be allowed under the no-loss determination, if the City determines the request to be necessary and reasonable.

(7) After an activity is completed, further wetland impacts from the draining or filling must be reduced or eliminated by maintaining, operating, and managing the project in a manner that preserves and maintains remaining wetland functions and values. The City will require applicants to implement best management practices to protect wetland functions and values.

(8) Unavoidable wetland impacts that remain after efforts to minimize, rectify, reduce, or eliminate them must be replaced.

6. EXEMPTIONS

A. The following activities are exempt from the 0-4. Wetland Overlay District regulations:

(1) Activities in a wetland created solely as a result of:

(a) Beaver dam construction;

(b) Blockage of culverts through roadways maintained by a public or private entity;

(c) Actions by public entities that were taken for a purpose other than creating the wetland;

(d) Any combination of (a) to (c).

(2) Impoundments or excavations constructed in non-wetlands solely for the purpose of effluent treatment, storm water retention, soil and water conservation practices, and water quality improvements, and not as part of a compensatory wetland mitigation process, that may, over time, take on wetland characteristics, are also exempted.

(3) Placement, maintenance, repair, enhancement, or replacement of utility or utility-type service, including the transmission, distribution, or furnishing, at wholesale or retail, of natural or manufactured gas, electricity, telephone, or radio service or communications;

(4) Activities associated with routine maintenance of utility and pipeline rights-of-way, provided the activities do not result in additional intrusion into the wetland;

(5) Activities associated with routine maintenance or repair of existing public highways, roads, streets, and bridges, provided the activities so not result in additional intrusion into the wetland outside of the existing right of way;

(6) Emergency repair and normal maintenance of existing public works, provided the activity does not result in additional intrusion of the public works into the wetland and do not result in the draining or filling, wholly or partially, of a wetland.

(7) Normal maintenance and repair of structures causing no additional intrusion of an existing structure into the wetland, and maintenance and repair of private crossings that do not result in the draining or filling, wholly or partially, of a wetland. This exemption applies to private structures, such as buildings or road crossings;

(8) Activities that result in the draining or filling of less than 400 square feet of wetlands. This exemption applies if the total wetland loss by draining and filling will be less than 400 square feet per year per landowner, and the cumulative impact by all persons on a wetland over time after January 1, 1992, does not exceed five percent of the wetland's area.

7. REPLACEMENT PLAN DETERMINATIONS

A. A landowner intending to drain or fill a wetland who does not qualify for in exemption in Section 14 or a no-loss determination in Section 205.27.5D.(6). (a-d) shall obtain approval of a replacement plan from the City or local government unit before beginning draining or filling.

B. The City shall, within ten days of receipt of the application, mail a copy of the application and an invitation to submit comments to the Board of Water and Soil Resources (the board), which will publish it in the Environmental Quality Board Monitor; members of the public who have requested a copy; the soil and water conservation district; the watershed district or watershed management organization; the county board; mayors of cities within the watershed; and the commissioners of agriculture and natural resources. At the same time, the City shall publish notice of the application with an invitation for comment in the City's official newspaper.

C. The City shall not make its decision before 30 days and not more than 60 days have elapsed from the mailing of notice, publication in the Environmental Quality Board Monitor, when required, or publication in the newspaper, whichever is later. The City's decision shall not be effective until 30 days after a copy of the decision has been mailed to the Environmental Quality Board Monitor for publication, when required, and mailed to the same list specified above for notice of the application, and to the applicant. The mailing to the applicant shall be by registered mail and shall advise that the decision is not effective for 30 days and is stayed if it is appealed.

D. The City's decision shall be based on the replacement standards in Section 205.27.8 and on the determination of the Technical Evaluation Panel concerning the public values, location, size, and type of wetland being altered. The City shall consider the recommendation of the Technical Evaluation Panel to approve, modify, or reject the proposed replacement plan.

8. REPLACEMENT PLAN COMPONENTS

A. On a Combined Joint Notification form provided by the City, and with needed attachments supplied by the applicant, the following documentation shall be provided:

(1) Organizational information, including the following:

(a) The post office address of the applicant;

(b) For corporations, the principal officers of the corporation, any parent companies, owners, partners, and joint ventures, and a designated contact person;

(c) Managing agents, subsidiaries, or consultants that are or may be involved with the wetland draining or filling project;

(2) An affidavit confirming that the wetland values will be replaced before or concurrent with the actual draining or filling of a wetlands The City may require an irrevocable bank letter of credit or other security acceptable to the City to guarantee the successful completion of the project;

(3) For the impacted wetland:

(a) A recent aerial photograph or accurate map of the impacted wetland area;

(b) The location of the wetland, including the county, watershed name or number, and public land survey with the coordinate of the approximate wetland center;

(c) The size of the wetland, in acres or square feet;

(d) The type of wetland using USFWS Circular 39, and NWI mapping conventions;

(e) A list of the dominant vegetation in the impacted wetland area, including common names of the vegetation exceeding 20 percent coverage and an estimate of coverage;

(f) A soils map of the site showing soil type and substrate, where available;

(g) The size of the watershed that drains surface water into the wetland as determined from a United States Government Survey topographical map or other suitable topographical survey;

(h) The locations of any surface inlets or outlets, natural or otherwise, draining into or out of the wetland, and if the wetland is within the floodplain of a stream, river, or other watercourse, the distance and direction to the watercourse;

(i) A map, photograph, or written description of the land use of the immediate watershed within one mile of the impacted wetland. The surrounding land use information shall also indicate the presence and location, if any, of wetland preservation regions and areas, wetland development avoidance regions and areas, and wetland deficient regions and areas as identified in the comprehensive water plan;

(j) The nature of the proposed project, its areal extent, and the impact on the wetland must be shown in sufficient detail to allow the City to determine the amount and types of wetland to be impacted and to demonstrate compliance with the replacement sequencing criteria in Section 5D;

(k) Evidence of ownership or rights to the affected areas, including a legal description. When two or more landowners are involved, including both the impact site and the proposed replacement site, a contract or other evidence of agreement signed by all landowners and notarized must be included with the replacement plan. The contract or agreement must contain an acknowledgement of the covenant provisions in Section 205.27.7.4.9, by landowners on which a replacement wetland is proposed and the location and acreage of replacement wetlands. The contract becomes binding upon final approval of the replacement plan;

(l) A list of all other local, state, and federal permits and approvals required for the activity; and

(m) Other information considered necessary by the City for evaluation of the activity.

(4) For the replacement wetland:

(a) A recent aerial photograph or accurate map of the replacement wetland area;

(b) The location of the wetland, including the county, watershed name or number, and public land survey coordinate of the approximate wetland center;

(c) The size of the wetland, in acres or square feet;

(d) The type of wetland using USFWS Circular 39, and NWI mapping conventions;

(e) A list of the dominant vegetation in the. impacted wetland area, including common names of the vegetation exceeding 20 percent coverage and an estimate of coverage;

(f) A soils map of the site showing soil type and substrate, where available;

(g) The size of the watershed that drains surface water into the wetland as determined from a United States Government Survey topographical map or other suitable topographical survey;

(h) The locations of any surface inlets or outlets, natural or otherwise, draining into or out of the wetland, and if the wetland is within the floodplain of a stream, river, or other watercourse, the distance and direction to the watercourse;

(i) A map, photograph, or written description of the land use of the immediate watershed within one mile of the impacted wetland. The surrounding land use information shall also indicate the presence and location, if any, of wetland preservation regions and areas, wetland development avoidance regions and areas, and wetland deficient regions and areas as identified in the comprehensive water plan;

(j) Evidence of ownership or rights to the affected areas, including a legal description. When two or more landowners are involved, including both the impact site and the proposed replacement site, a contract or other evidence of agreement signed by all landowners and notarized must be included with the replacement plan. The contract or agreement must contain an acknowledgement of the covenant provisions in paragraph 9, by landowners on which a replacement wetland is proposed and the location and acreage of replacement wetlands, The contract becomes binding upon final approval of the replacement plan;

(k) A list of all other local, state, and federal permits and approvals required for the activity;

(1) An explanation of the size and type of wetland that will result from successful completion of the replacement plan;

(m) Scale drawings showing plan and profile views of the replacement wetland and fixed photo-reference points for monitoring purposes. Photo-reference points should include views of any control structures and enough additional points to accurately depict the entire project;

(n) How the replacement wetland shall be constructed, including the best management practices that will be implemented to prevent erosion or site degradation;

(o) For created wetlands only, additional soils information sufficient to determine the capability of the site to produce and maintain wetland characteristics;

(p) A timetable that clearly states how and when implementation of the replacement plan shall proceed, and when construction of the replacement wetland shall be finalized;

(q) A notice in a form provided by the BWSR attached to and recorded with the deed for lands containing a replacement wetland, specifying the following:

((1)) The location of the replacement wetland;

((2)) That the wetland is subject to the act;

((3)) That the fee title owner is responsible for the costs of repairs or reconstruction, if necessary, or for replacement costs;

((4)) That reasonable access to the replacement wetland shall be granted to the proper authorities for inspection, monitoring, and enforcement purposes;

((5)) That costs of title review and document recording is the responsibility of the fee title owner; and

((6)) That the City or board can require necessary repairs or reconstruction work to return the wetland to the specifications of the approved replacement plan and require reimbursement or reasonable costs from the wetland owner, or can require! replacement of the wetland according to the Act;

(r) A statement that the replacement wetland was not previously restored or created under a prior approved replacement plan;

(s) A statement that the replacement wetland was not drained or filled under an exemption during the previous ten years;

(t) A statement that the replacement wetland was not restored with financial assistance from public conservation programs;

(u) A statement that the replacement wetland was not restored using private funds other than those of the landowner unless the funds are paid back with interest to the individual or organization that funded the restoration and the individual or organization notifies the City in writing that the restored wetland may be considered for replacement;

(v) A plan for monitoring the success of the replacement plan in meeting the project goal in paragraph I and as specified in Section 205.27.12; and

(w) Other information considered for evaluation of the project by the City.

(5) The applicant must provide information considering the special considerations criteria in Section 205.27.8.G.

9. REPLACEMENT PLAN EVALUATION CRITERIA

A. Before consideration or approval of the replacement plan, the City shall ensure that the applicant has exhausted all possibilities to avoid and minimize possibilities to avoid and minimize adverse impacts according to sequencing in Section 5D.

B. The order of preference for the method of replacement, from the most preferred to least preferred:

(1) Project-specific restoration;

(2) Project-specific creation;

(3) Wetland banking.

Modification or conversion of non-degraded wetland from one wetland type to another does not constitute adequate replacement. Wetlands drained or filled under an exemption may not be restored for replacement credit for ten years after draining or filling.

C. Replacement of wetland values shall be completed before or concurrent with the actual draining or filling of a wetland, unless an irrevocable bank letter of credit or other security acceptable to the City is submitted to the City to guarantee successful completion of the replacement. All wetlands to be restored or created as part of an approved replacement plan shall be clearly designated prior to approval of the replacement plan by the City.

D. Replacement wetlands shall be located in the same watershed as the impacted wetlands, or the ratio in Section 205.27.10 shall apply.

E. Replacement wetlands must be of a size sufficient to ensure that they provide equal or greater public value than the wetland that was drained or filled. The minimum size of the replacement wetland must be in the ratio of two acres of replaced wetland for each acre of drained or filled wetland. The actual replacement ratios required for a replacement wetland may be more than the minimum, subject to the evaluation of wetland functions in Section 9. Future owners may make no use of the wetland after it is altered for a period of ten years unless future replacement to achieve a 2:1 ratio occurs. The landowner shall record a notice of this restriction in the office of the county recorder in which the project is located.

F. Restoration and replacement of wetlands must be accomplished according to the ecology of the landscape area affected. A replacement plan that would result in wetlands or wetland characteristics that do not naturally occur in the landscape area in which the replacement will occur will not be approved.

G. The following factors when, applicable to an impact or replacement site, shall be considered by the City:

(1) The site contains endangered species listed in Minnesota Rules, parts 6134.0200 to 6134.0400 and the proposed activities would take those species, the replacement plan shall not be approved.

(2) The site contains a rare natural community, and the proposed activity would adversely affect the community, the replacement plan shall not be approved.

(3) The site contains a significant fish and wildlife resource; including but not limited to fish passage and spawning areas, colonial waterbird nesting colonies, migratory waterfowl concentration areas, deer wintering areas, or wildlife travel corridors, and the proposed activity would adversely impact those resources, the replacement plan shall not be approved.

(4) The site contains archaeological or historic areas, and the activity would adversely affect those areas, the replacement plan shall not be approved.

(5) The proposed activity would have significant adverse impact on the groundwater quality, the replacement plan shall not be approved.

(6) The proposed activity would have significant adverse impact on the water quality of outstanding resource value waters as listed in Minnesota Rules, 7050.0180 or on trout waters, the replacement plan shall not be approved.

(7) Wetlands used for educational or research purposes shall be maintained or adequately replaced.

(8) The proposed activity involves known or potential hazardous wastes. Such activities shall be conducted in accordance with applicable federal or state standards.

(9) The proposed activity shall be consistent with other plans, including, but not limited to zoning, comprehensive, watershed management, and land use plans.

10. EVALUATION OF WETLAND FUNCTIONS AND VALUES

A. Replacement wetlands shall replace the functions and values that are lost that are lost from a wetland that is drained or killed. A replacement wetland should replace the same combination or functions and values provided by the impacted wetland. The wetland type index system in Minnesota Rules 8420.0540, subpt 10, item B, uses relative values of wetland functions compared across wetland types to evaluate the adequacy of wetland replacement. The City may allow the evaluation of wetlands by measuring and comparing public values specified in Minnesota Statutes, section 103b. 3355, with the current version of the Minnesota wetland evaluation methodology or another scientifically acceptable methodology.

B. Table 4, Minnesota Rules, part 8420.0550, provides technical specifications for constructing wetland types. In evaluating a wetland replacement plan, the City shall determine whether the wetland type stated as the replacement plan goal will result from the replacement plan specifications. If a wetland type other than the replacement plan goal is likely to result, the City shall evaluate the plan based on this determination.

C. The City may consider allowing constructed stormwater detention basins for replacement credit if the basin conforms to the following specifications:

(1) The basin design uses a two-cell system in which the upstream cell has a 24-hour retention time for a two-year storm event;

(2) The downstream cell is designed for a maximum 12-inch rise in water level for a ten-year storm event;

(3) The standards in Minnesota Rules, part 8420.0550 are followed;

(4) The design goal is a palustrine emergent wetland that meets all statutory definitions of a wetland, for example, soils, hydrology, and vegetation. Only the downstream cell can be counted for wetland credit, and the replacement plan must include a plan and schedule for maintenance of the storm water basin system. Storm water basins which allowed for replacement are not eligible for an exemption; and

(5) Storm water management basins constructed for the primary purpose of controlling or treating stormwater runoff from impervious surfaces or developed areas, not conforming to the units in 1-4 above, are not considered wetlands. These are therefore exempt from replacement plan requirements when constructed in non-wetlands, and also cannot be considered for credit as part of a replacement plan, regardless of their location.

D. When wetland functions lost as a result of drainage or filling are replaced by restoring a wetland of the same type and in the same watershed with the same inlet and outlet characteristics as described in Section 205.27.9.E, and related definitions, the replacement shall be considered to be in-kind and the minimal replacement ratio shall be used to determine the necessary size of the replacement wetland. The minimum replacement ratio is 2:1, requiring two times the impacted area be replaced.

E. If the wetland functions lost as a result of drainage or filling are to be replaced by creating a wetland or restoring a wetland of a different type than the impacted wetland, or if the replacement wetland is in a watershed other than the impacted wetland or had different inlet and outlet characteristics than the impacted wetland, the replacement shall be considered out of kind, and the City shall use the replacement ratios in Minnesota Rules, 8420.0540, subpt b, item D, Table 2, to determine the amount of replacement wetland needed to replace the lost wetland values.

(1) Differences in wetland functions and values among wetland types are to be evaluated and replaced using the wetland type ratio table located and, to be applied as specified in Administrative Rules, 8420.0540, subpt 10, Table 2. The wetland type ratio table incorporates an evaluation of public values as specified in Minnesota Statutes, section 103B.3355, for the purposes of comparison among wetland types.

(2) If a wetland to be drained or filled exhibits more than one wetland type as determined by the Technical Evaluation Panel, and more than one wetland type is proposed to be drained or filled, the City shall use the following procedure to determine needed replacement. The acreage of each wetland type to be converted to non-wetland shall be determined**.** The wetland type ratio table shall then be used to determine the amount of replacement wetland for each wetland type. The sum of the replacement for each wetland type shall be the resultant acreage requirement for the wetland type ratio.

(3) When a replacement wetland is located in a different hydrologic unit than the impacted wetland, as indicated by-the USGS Hydrologic Unit Map for Minnesota, the ratios in Minnesota Rules 8420.0540 must be followed.

(4) If the inlet and outlet characteristics of a replacement wetland differ from those of the impacted wetland, the ratios in Minnesota Rules 8420.0540 Table 3 shall be applied.

(5) The City may, by local ordinance, establish additional local public value to address wetland conservation or preservation issues of local concern. These ratios shall have a minimum value of zero and shall be based on wetland management objectives of a local water management plan adopted under Minnesota Statutes, Chapter 103B or 1036.

(6) The required replacement ratio for out-of kind replacement shall be the sum of the wetland type ratio plus the hydrologic unit ratio plus the inlet and outlet characteristic ratio plus the local public value ratio. If this ratio is less than the minimum in-kind ratio, the minimum in-kind ratio shall be the required replacement ratio.

(7) In cases of partial drainage, the amount of wetland to be replaced shall be calculated using the formulas in Minnesota Rules 8420.0540, Item E.

(8) In cases where partially drained wetlands are restored to their former state, credit may be received as calculated in Administrative Rules 8420.0540, Item F.

(9) For projects of unusual complexity, or replacement plans that have been denied and are being appealed, and for which the City believes an alternative evaluation process may produce a substantially different replacement requirement, the City may evaluate the replacement plan using the current version of the Minnesota wetland evaluation methodology or another scientifically accepted methodology approved by the board, in consultation with the Commissioner, that evaluates all wetland functions and values for both the impacted and replacement wetlands.

When using the Minnesota wetland evaluation methodology or another board, in consultation with the Commissioner, approved methodology to evaluate replacement plans, the ratio of impact wetland to replacement wetland shall not be less than the minimum required. Further, the hydrologic unit ratio, the inlet and outlet characteristics ration, and the local public value ratio, shall also be considered when using the Minnesota wetland evaluation methodology or another board, in consultation with the Commissioner, approved methodology.

(10) A replacement plan that fails to meet the requirements in items 1-8 shall be considered inadequate in replacing lost functions and values and shall not be approved by the City. A replacement plan that has been considered by the City and not approved may be revised and resubmitted for consideration by the City. The decision of the City to approve, approve with conditions, or not approve a replacement plan becomes final if not appealed to the board within 30 days after the date on which the decision is mailed to those required to receive notice of the decision. Before construction of the wetland, a notice as required in Section 205.27.7.4.9 must be recorded and proof of recording provided to the City.

11. WETLAND REPLACEMENT STANDARDS

A. The standards and guidelines in this part shall be used in wetland creation wetland creation and restoration efforts to ensure adequate replacement of wetland functions and values. Minnesota Rules 8420.0540, Table 4 provides general guidelines for the physical characteristics that each type of replacement wetland should have

B. The standards in items 1 to 8 shall be followed in all wetland replacements unless the technical evaluation panel determines that a standard is clearly not appropriate.

(1) Water control structures must be constructed using specification provided in the Minnesota Wetland Restoration Guide or their equivalent. Control structures may be subject to the department dam safety regulations.

(2) Best management practices must be established and maintained to the entire perimeter of all replacement wetlands.

(3) For replacement wetlands where the dominant vegetation of the wetland type identified as the replacement goal in Section 205.27.7.A.4.1, is not likely to recover naturally in a five-year period, wooded and shrub wetlands especially, the replacement wetland must be seeded or planted with appropriate wetland origin species, as determined by the soil and water conservation district, the seed or planting stock should be of local to preserve local genotypes. During the monitoring period, the applicant must take reasonable steps to prevent invasion by any species, for example, purple loosestrife and Eurasian water milfoil, that would defeat the re-vegetation goal of the replacement plan.

(4) Erosion control measures as determined by the soil and water conservation district must be employed during construction and until permanent ground cover is established to prevent siltation of the replacement wetland or nearby water bodies.

(5) For all restored wetlands where the original organic substrate has been striped away and for all created wetlands, provisions must be made for providing an organic substrate. When feasible, the organic soil used for backfill should be taken from the drained or filled wetland.

(6) The bottom contours of created types 3, 4, and 5 wetlands should be undulating, rather than flat, to provide a variety of water depth.

(7) Sideslopes of created wetlands and buffer strip must not be steeper than 5:1, five feet horizontal for every one foot vertical as averaged around the wetlands Sideslopes of 10:1 and 15:1 are preferred.

(8) Created wetlands should have an irregular edge to create points and bays to be consistent with Section 205.27.8.F.

12. MONITORING ANNUAL REPORT

A. The purpose of wetland value replacement monitoring is to ensure that the replacement wetland achieves the goal of replacing lost functions and values.

B. The applicant shall submit the annual report to the City on a date determined by the City until the applicant has fulfilled all of the requirements of the City.

C. The purpose of the annual report is to describe actual wetland restoration or creation activities completed during the past year, activities planned for the upcoming year, and the information in Section B.

D. The annual report shall include the following information and other site-specific information identified by the City:

(1) A description of the project location, size, current wetland type (Cowardin classification), and desired wetland type (goal);

(2) A comparison of the as-built specifications versus the design specifications (first annual plan only) and a rationale for significant changes;

(3) Hydrology measurements: seasonal water level elevations during the period April through October (msl or referenced to a known benchmark);

(4) A list of the dominant vegetation in the wetland, including common names of the vegetation exceeding 20 percent coverage and an estimate of coverage.

(5) Color photographs of the project area taken anytime during the period June through August, referenced to the fixed photo reference points identified on the wetland replacement plan and labeled accordingly.

13. MONITORING DETERMINATIONS BY THE CITY

The City:

A. Shall inspect the project when construction is complete and certify compliance with construction specifications, and may inspect the project at any time during the construction and monitoring period, and any time after that to assess the long-term viability of the replaced wetland. When the City certifies that the construction specifications have been met, the City shall so advise the applicant and return any bond or other security that the applicant had provided;

B. May order corrective action at any time during the required monitoring period if it determines that the goal of the approved replacement plan will not be met, and may require the applicant to prepare an amended wetland value replacement plan for review and approval by the City, which describes in detail the corrective measures to be taken to achieve the goal of replacing the lost wetland functions and values;

C. Shall make a finding based on a site visit at the end of the monitoring period as to whether the goal of the replacement plan has been met. If the goal of the replacement plan has not been met, the City shall order corrective action and extend the monitoring period; and

D. Shall require one or more of the following actions if, during the monitoring period, the City finds that the goal of the replacement plan will not be met:

(1) Order the applicant to prepare and implement a new replacement plan;

(2) Issue a cease and desist order on the draining and filling activity if it has not been completed;

(3) Order restoration of the impacted wetland;

(4) Obtain forfeiture of a bond or-other security and use the proceeds to replace the lost wetland values;

(5) Ask the district court to order the applicant to fulfill the replacement plan; or

(6) Other actions that the City determines necessary to achieve the goal of the replacement plan.

E. A landowner intending to drain or fill a wetland without replacement, claiming exemption under Section 205.27.14, shall contact the City before beginning draining or filling activities for determination whether or not the activity is exempt. The City shall keep in file all documentation and findings of fact concerning exemption determinations for a period of ten years.

F. The City shall issue a certificate of exemption to the landowner.

G. The landowner requesting the exemption is responsible for submitting the proof necessary to show qualifications for the particular exemption claimed. The landowner shall ensure that proper erosion control measures are taken to prevent sedimentation in the water, the drain or fill does not block fish passage, and the drain or fill is conducted in compliance with all other federal, state, and local requirements, including best management practices and water resource protection requirements established under Minnesota Statutes, Chapter 103H.

14. NO LOSS DETERMINATIONS

A landowner unsure if the proposed work will result in a loss of wetland shall apply to the City for a determination. The City shall keep on file all documentation and findings of fact concerning no-loss determinations for a period of ten years.

The landowner applying for a no-loss determination is responsible for submitting the proof necessary to show qualification for the claim.

The City shall issue a no-loss certificate if:

A. The work will not drain or fill a wetland;

B. Water level management activities will not result in the conversion of a wetland to another use;

C. The activities are in a surface impoundment for containment of fossil fuel combustion waste or water retention, and are not part of a compensatory wetland mitigation program; or

D. The activity is being conducted as part of an approved replacement plan or is conducted or authorized by public agencies for the purpose of wetland restoration and the activity is restricted to placing fill in a previously excavated drainage system to restore a wetland to its original condition.

E. The activity meets the conditions in Section 205.27.5.D.6.

15. TECHNICAL EVALUATION PANEL PROCEDURES

For the City, there is a Technical Evaluation Panel of three persons a technical professional employee of the board, a technical professional employee of the soil and professional employee of the soil and water conservation district of Anoka county, and a technical professional with expertise in water resources management appointed by the City. One member selected by the City shall act as the contact person and coordinator for the panel. Two members of the panel must be knowledgeable and trained in applying methodologies of the Federal Manual for Identifying and Delineating Jurisdictional Wetlands, and evaluation of public values. The Technical Evaluation Panel may invite additional wetland experts in its work.

The panel shall make technical determinations on questions of public values, location, size, and type for replacement plans if requested to do so by the City. the landowner, or a member of the Technical Evaluation Panel. The panel may review replacement plans and recommend to the City either approval, approval with changes or conditions or rejection. The panel shall make no determinations or recommendations without at least one member having made an on-site inspection. Panel determinations and recommendations must be endorsed by at least two of the three members.

The panel, or one of its members when so authorized by all of the members, may assist the City in making wetland size and type determinations when asked to do so by the City as part of making an exemption or no-loss determination.

If requested by the City, the landowner, or a member of the Technical Evaluation Panel, the panel shall answer technical questions or participate in the monitoring of replacement wetlands according to Section 205.27.13.

16. APPEAL OF CITY DECISIONS

A. The decision of the City to approve, approve with conditions, or reject a replacement plan, or determination of exemption or no loss, becomes final if not appealed to the board within 30 days after the date on which the decision is mailed to those required to receive notice of the decision.

B. Appeal may be made by the landowner, by any of those required to receive notice of the decision, or by 100 residents of the county in which a majority of the wetland is located.

C. Appeal is effective upon mailing of the notice of appeal to the board with an affidavit that a copy of the notice of appeal has been mailed to the City. The City shall then mail a copy of the notice of the appeal to all those to whom it was required by Section 205.27.6.B to mail a copy of the notice of decision.

D. An exemption or no-loss determination may be appealed to the board by the landowner after first exhausting all local administrative appeal options.

E. Those required to receive notice of replacement plan decisions as provided for in Section 205.27.6.B may petition the board to hear an appeal from an exemption or no-loss determination. The board shall grant the petition unless it finds that the appeal is merit-less, trivial, or brought solely for the purposes of delay. In determining whether to grant the appeal, the board shall give consideration to the size of the wetland, other factors in controversy, any patterns of similar acts by the City or landowner of petition, and the consequences of the delay.

17. APPEAL FROM BOARD DECISION

An appeal of a board decision is taken to the state court of appeals and must be considered and must be considered an appeal from a contested case decision for purposes of judicial review under Minnesota Statutes, section 14.63 to 14.69.

18. COMPENSATION

A. Replacement plan applicants who have completed the City's process and the board appeal process, and the plan has not been approved as submitted, may apply to the board for compensation under Minnesota Statutes, section 103G.237.

B. The application must identify the applicant, locate the wetland, and refer the board to its appeal file in the matter.

C. The application must include an agreement that in exchange for compensation the applicant will convey to the state a perpetual conservation easement in the form required by Minnesota Statutes, section 103F.516. The applicant must provide an abstract of title demonstrating the ability to convey the easement free of any prior title, lien, or encumbrance. Failure to provide marketable title negates the state's obligation to compensate.

D. The applicant must submit official documentation from the US Army Corps of engineers, the Minnesota Pollution Control Agency, the watershed district or water management organization if any, the county, and the City, as applicable, that the proposed drain or fill activity and the proposed subsequent use of the wetland are lawful under their respective legal requirements.

E. The landowner must demonstrate that the proposed drain or fill is a feasible and prudent project and that the replacement plan as proposed is a reasonable good faith effort to fulfill the replacement requirements of Sections 205.27.7 to 205.27.10 and the Act.

F. If the plan was approved, but with conditions or modifications, the applicant must show that the conditions or modifications make the replacement unworkable or not feasible. A plan is unworkable or not feasible if the replacement must be on land that the applicant does not own, the applicant has make good faith efforts to acquire a replacement site and not succeeded, and there is not a qualifying replacement available in a wetland bank. A plan is also unworkable or not feasible if it is not possible to carry out for engineering reasons. The applicant must show that not going ahead with the project will cause the applicant damages and that disallowing the proposed use will enhance the public values of the wetland.

G. The applicant must submit the requirements of this Section in writing, by certified mail, to the board. If the applicant wants to make oral argument to the board, it must be indicated art of the application. The board may require that the applicant appear before the board.

H. If the board finds that the applicant has submitted a complete application and proved the requirements in this Section, the board shall compensate the applicant as required by law within 90 days after the board received a completed application, provided that within the same time period the applicant must convey to the board a conservation easement in the form required by Minnesota Statutes, section 103F.516. If the board does not provide the required compensation in exchange for the conservation easement, the applicant may drain or fill the wetland in the manner proposed, without replacement.

19. WETLAND BANKING

The applicant may use wetland banking credits if the project complies with Minnesota Rules 8420.0740 subparagraph 2 if no alternative site is available.

20. PENALTIES

Any violation of this Chapter is a misdemeanor and is subject to all penalties provided for such violations under the provisions of Chapter 901 of this Code.

FRIDLEY CITY CODE
CHAPTER 208. STORMWATER MANAGEMENT AND EROSION CONTROL
(Ref. 1011, 1226)

208.01 PURPOSE AND INTENT

The purpose of this ordinance is to control or eliminate storm water pollution along with soil erosion and sedimentation within the City of Fridley. It establishes standards and specifications for conservation practices and planning activities, which minimize storm water pollution, soil erosion and sedimentation.

208.02 SCOPE

Except where a variance is granted, any person, firm, sole proprietorship, partnership, corporation, state agency, or political subdivision proposing a land disturbance activity within the City of Fridley shall apply to the city for the approval of the storm water pollution control plan. No land shall be disturbed until the plan is approved by the city and conforms to the standards set forth herein.

208.03 DEFINITIONS

These definitions apply to this ordinance. Unless specifically defined below, the words or phrases used in this ordinance shall have the same meaning as they have in common usage. When not inconsistent with the context, words used in the present tense include the future tense, words in the plural number include the singular number, and words in the singular number include the plural number. The words “shall” and “must” are always mandatory and not merely directive.

1. Applicant: Any person or group that applies for a building permit, subdivision approval, or a permit to allow land disturbing activities. Applicant also means that person's agents, employees, and others acting under this person's or group’s direction. The term “applicant” also refers to the permit holder or holders and the permit holder’s agents, employees, and others acting under this person's or group’s direction.

2. Best Management Practices (BMPs): Erosion and sediment control and water quality management practices that are the most effective and practicable means of controlling, preventing, and minimizing the degradation of surface water, including construction-phasing, minimizing the length of time soil areas are exposed, prohibitions, and other management practices published by state or designated area-wide planning agencies.

3. Common Plan of Development or Sale: A contiguous area where multiple separate and distinct land disturbing activities may be taking place at different times, or on different schedules, but under one proposed plan. This item is broadly defined to include design, permit application, advertisement or physical demarcation indicating that land disturbing activities may occur.

4. Developer: Any person, group, firm, corporation, sole proprietorship, partnership, state agency, or political subdivision thereof engaged in a land disturbance activity.

5. Development: Any land disturbance activity that changes the site's runoff characteristics in conjunction with residential, commercial, industrial or institutional construction or alteration.

6. Discharge: The release, conveyance, channeling, runoff, or drainage, of storm water, including snowmelt, from a construction site.

7. Energy Dissipation: This refers to methods employed at pipe outlets to prevent erosion. Examples include, but are not limited to; aprons, riprap, splash pads, and gabions that are designed to prevent erosion.

8. Erosion: Any process that wears away the surface of the land by the action of water, wind, ice, or gravity. Erosion can be accelerated by the activities of people and nature.

9. Erosion Control: Refers to methods employed to prevent erosion. Examples include soil stabilization practices, horizontal slope grading, temporary or permanent cover, and construction phasing.

10. Erosion and Sediment Practice Specifications or Practice: The management procedures, techniques, and methods to control soil erosion and sedimentation as officially adopted by the state, county, city or local watershed group, whichever is most stringent.

11. Exposed Soil Areas: All areas of the construction site where the vegetation (trees, shrubs, brush, grasses, etc.) or impervious surface has been removed, thus rendering the soil more prone to erosion. This includes topsoil stockpile areas, borrow areas and disposal areas within the construction site. It does not include temporary stockpiles or surcharge areas of clean sand, gravel, concrete or bituminous. Once soil is exposed, it is considered "exposed soil," until it meets the definition of "final stabilization."

12. Filter Strips: A vegetated section of land designed to treat runoff as overland sheet flow. They may be designed in any natural vegetated form from a grassy meadow to a small forest. Their dense vegetated cover facilitates pollutant removal and infiltration.

13. Final Stabilization: Means that all soil disturbing activities at the site have been completed, and that a uniform (evenly distributed, e.g., without large bare areas) perennial vegetative cover with a density of seventy-five (75) percent of the cover for unpaved areas and areas not covered by permanent structures has been established, or equivalent permanent stabilization measures have been employed. Simply sowing grass seed is not considered final stabilization.

14. Hydric Soils: Soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part.

15. Hydrophytic Vegetation: Macrophytic (large enough to be observed by the naked eye) plant life growing in water, soil or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content.

16. Impervious Surface: A constructed hard surface that either prevents or retards the entry of water into the soil, and causes water to run off the surface in greater quantities and at an increased rate of flow than existed prior to development. Examples include rooftops, sidewalks, patios, driveways, parking lots, storage areas, and concrete, asphalt, or gravel roads.

17. Land Disturbance Activity: Any land change that may result in soil erosion from water or wind and the movement of sediments into or upon waters or lands within the City of Fridley, including construction, clearing & grubbing, grading, excavating, transporting and filling of land. Within the context of this rule, land disturbance activity does not mean:

A. Minor land disturbance activities such as home gardens and an individual's home landscaping, repairs, and maintenance work.

B. Additions or modifications to existing single family structures that which result in creating under five thousand (5,000) square feet of exposed soil or impervious surface.

C. Construction, installation, and maintenance of fences, signs, posts, poles, and electric, telephone, cable television, utility lines or individual service connections to these utilities, which result in creating under five thousand (5,000) square feet of exposed soil or impervious surface.

D. Tilling, planting, or harvesting of agricultural, horticultural, or forest crops.

E. Emergency work to protect life, limb, or property and emergency repairs, unless the land disturbing activity would have otherwise required an approved erosion and sediment control plan, except for the emergency. If such a plan would have been required, then the disturbed land area shall be shaped and stabilized in accordance with the City of Fridley's requirements as soon as possible.

F. Street and utility reconstruction projects that result in a net increase in impervious area of less than 5%.

18. Native Vegetation: The presettlement (Already existing in Minnesota at the time of statehood in 1858) group of plant species native to the local region, that were not introduced as a result of European settlement or subsequent human introduction.

19. Ordinary High Water Mark: Minnesota Statute 103G.005, subdivision 14 defines. "Ordinary high water level" as the boundary of waterbasins, watercourses, public waters, and public waters wetlands, and:

A. the ordinary high water level is an elevation delineating the highest water level that has been maintained for a sufficient period of time to leave evidence upon the landscape, commonly the point where the natural vegetation changes from predominantly aquatic to predominantly terrestrial;

B. for watercourses, the ordinary high water level is the elevation of the top of the bank of the channel; and

C. for reservoirs and flowages, the ordinary high water level is the operating elevation of the normal summer pool.

The term "ordinary high water mark" is further defined in Minnesota Rule 6120.2500, subpart 11. Ordinary high water marks are determined by the Minnesota Department of Natural Resources' area hydrologist.

20. Paved Surface: A constructed hard, smooth surface made of asphalt, concrete or other pavement material. Examples include, but are not limited to, roads, sidewalks, driveways and parking lots.

21. Permanent Cover: Means "final stabilization." Examples include grass, gravel, asphalt, and concrete. See also the definition of "final stabilization."

22. Permit: With in the context of this code a "permit" is a written warrant or license granted for construction, subdivision approval, or to allow land disturbing activities

23. Phased Project or Development: Clearing a parcel of land in distinct phases, with at least fifty percent (50%) of the project's preceding phase meeting the definition of "final stabilization" and the remainder proceeding toward completion, before beginning the next phase of clearing.

24. Runoff Coefficient: The fraction of total precipitation that is not infiltrated into or otherwise retained by the soil, concrete, asphalt or other surface upon which it falls, that will appear at the conveyance as runoff. This coefficient is usually estimated for an event or on an average annual basis.

25. Sediment: The product of an erosion process; solid material both mineral and organic, that is in suspension, is being transported, or has been moved by water, wind, or ice, and has come to rest on the earth's surface either above or below water level.

26. Sedimentation: The process or action of depositing sediment.

27. Sediment Control: The methods employed to prevent sediment from leaving the development site. Examples of sediment control practices are silt fences, sediment traps, earth dikes, drainage swales, check dams, subsurface drains, pipe slope drains, storm drain inlet protection, and temporary or permanent sedimentation basins.

28. Significant Redevelopment: Alterations of a property that changes the "footprint" of a site or building in such a way that results in the disturbance of over one (1) acre of land. This term is not intended to include activities, which would not be expected to cause adverse storm water quality impacts and offer no new opportunity for storm water controls, such as exterior remodeling.

29. Soil: The unconsolidated mineral and organic material on the immediate surface of the earth. For the purposes of this document, temporary stockpiles of clean sand, gravel, aggregate, concrete or bituminous materials are not considered "soil" stockpiles.

30. Stabilized: 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.

31. Steep Slope: Any slope steeper than fifteen (15) percent (Fifteen (15) feet of rise for every one hundred (100) feet horizontal run).

32. Storm Water: Under Minnesota Rule 7077.0105, subpart 41b storm water, "means precipitation runoff, storm water runoff, snow melt runoff, and any other surface runoff and drainage." (According to the Code of Federal Regulations (CFR) under 40 CFR 122.26 [b][13], "Storm water means storm water runoff, snow melt runoff and surface and drainage."). Storm water does not include construction site dewatering.

33. Storm Water Pollution Control Plan: A joint storm water and erosion and sediment control plan that is a document containing the requirements of Section 208.05, that when implemented will decrease soil erosion on a parcel of land and off-site nonpoint pollution. It involves both temporary and permanent controls.

34. Stormwater Pond or Basin: A permanent man-made structure used for the temporary storage of runoff. Detention Pond is considered a permanent man-made structure containing a temporary pool of water. A Retention Pond or a Wet Retention Facility is considered a permanent man-made structure containing a permanent pool of water.

35. Structure: Anything manufactured, constructed or erected which is normally attached to or positioned on land, including portable structures, earthen structures, roads, parking lots, and paved storage areas.

36. Subdivision: Any tract of land divided into building lots for private, public, commercial, industrial, etc. development. Minnesota Rule 6120.2500, subpart 17 defines subdivision as," land that is divided for the purpose of sale, rent, or lease, including planned unit development."

37. Temporary Protection: Short-term methods employed to prevent erosion. Examples of such protection are straw, mulch, erosion control blankets, wood chips, and erosion netting.

38. Vegetated or Grassy Swale: A vegetated earthen channel that conveys storm water, while treating the storm water by biofiltration. Such swales remove pollutants by both filtration and infiltration.

39. Very Steep Slope: Any slope steeper than one foot of rise for each three feet of horizontal run (Thirty-three (33) percent slope

40. Waters of the State: As defined in Minnesota Statutes section 115.01, subdivision 22 the term ". . . "'waters of the state' means all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state or any portion thereof."

41. Wetlands: As defined in Minnesota Rules 7050.0130, subpart F, ". . . 'wetlands' are those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Constructed wetlands designed for wastewater treatment are not waters of the state. Wetlands must have the following attributes:

A. A predominance of hydric soils;

B. Inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in a saturated soil condition; and

C.Under normal circumstances support a prevalence of such vegetation."

208.04 TECHNICAL GUIDES

The following handbooks are adopted by reference:

1. "Protecting Water Quality in Urban Areas", Minnesota Pollution Control Agency

2. "Storm-Water and Wetlands: Planning and Evaluation Guidelines for Addressing Potential Impacts of Urban Storm-Water and Snow-Melt Runoff on Wetlands", Minnesota Pollution Control Agency

3. "Minnesota Urban Small Sites BMP Manual", Metropolitan Council
www.metrocouncil.org/environment/environment.htm

4. “Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices”, United States Environmental Protection Agency

5. “Erosion Control Design Manual”, Minnesota Department of Transportation

6. “Field Office Technical Guide of the United States Department of Agriculture”, Soil Conservation Service

7. “Soil Survey of Anoka County”, developed by the United States Department of Agriculture, Soil Conservation Service

8. Minnesota Construction Site Erosion and Sediment Control Planning Handbook

208.05 STORMWATER POLLUTION CONTROL PLAN

Every applicant for a building permit, subdivision approval, or a permit to allow land disturbing activities must submit a storm water pollution control plan to the city engineer. No building permit, subdivision approval, or permit to allow land disturbing activities shall be issued until the city approves this plan.

1. Storm Water Runoff Rates. Release rates from storm water treatment basins shall not increase over the predevelopment twenty-four (24) hour two (2) year, ten (10) year and one hundred (100) year peak storm discharge rates, based on the last ten (10) years of how that land was used. Accelerated channel erosion must not occur as a result of the proposed activity. For discharges to wetlands volume control is more important than discharge rate control.

2. The Storm Water Pollution Control Plan and the Grading Plan. The storm water pollution control plan’s measures, the limit of disturbed surface shall be marked on the approved grading plan, and identified with flags, stakes, signs etc. on the development site before work begins.

3. Inspections of the Storm Water Pollution Control Plan’s Measures. At a minimum, such inspections shall be done weekly by the developer or the developer’s designated representative, and within twenty-four (24) hours after every storm or snow melt event large enough to result in runoff from the site (approximately 0.25 inches or more in twenty-four (24) hours). At a minimum, these inspections shall be done during active construction.

4. Minimum Requirements of the Storm Water Pollution Control Plan. The plan shall contain or consider:

A. The name and address of the applicant and the location of the activity.

B. Project description: the nature and purpose of the land disturbing activity and the amount of grading, utilities, and building construction involved.

C. Phasing of construction: time frames and schedules for the project's various aspects.

D. A map of the existing site conditions: existing topography, property information, steep and very steep slopes, existing drainage systems/patterns, type of soils, waterways, wetlands, vegetative cover, and one hundred (100) year flood plain boundaries.

E. A site construction plan that includes the location of the proposed land disturbing activities, stockpile locations, erosion and sediment control plan, construction schedule, and the plan for the maintenance and inspections of the storm water pollution control measures.

F. Adjacent areas: neighboring streams, lakes, residential areas, roads, etc., which might be affected by the land disturbing activity.

G. Designate the site's areas that have the potential for serious erosion problems.

H. Erosion and sediment control measures: the methods that will be used to control erosion and sedimentation on the site, both during and after the construction process.

I.Permanent stabilization: how the site will be stabilized after construction is completed, including specifications, time frames or schedules.

J. Calculations: any that were made for the design of such items as sediment basins, wet detention basins, diversions, waterways**,** infiltration zones and other applicable practices.

5. General Storm Water Pollution Control Plan Criteria. The plan shall address the following:

A. Stabilizing all exposed soils and soil stockpiles and the related time frame or schedule.

B. Establishing permanent vegetation and the related time frame or schedule.

C. Preventing sediment damage to adjacent properties and other designated areas such as streams, wetlands, lakes and unique vegetation (Oak groves, rare and endangered species habitats, etc.)

D. Scheduling for erosion and sediment control practices.

E. Where permanent and temporary sedimentation basins will be located.

F. Engineering the construction and stabilization of steep and very steep slopes.

G. Measures for controlling the quality and quantity of storm water leaving a site.

H. Stabilizing all waterways and outlets.

I. Protecting storm sewers from the entrance of sediment.

J. What precautions will be taken to contain sediment, when working in or crossing water bodies.

K. Restabilizing utility construction areas as soon as possible.

L. Protecting paved roads from sediment and mud brought in from access routes.

M. The eventual disposing of temporary erosion and sediment control measures.

N. How the temporary and permanent erosion and sediment controls will be maintained.

O. The disposal of collected sediment and floating debris.

6. Minimum Storm Water Pollution Control Measures and Related Inspections. These minimum control measures are required where bare soil is exposed. Due to the diversity of individual construction sites, each site will be individually evaluated. Where additional control measures are needed, they will be specified at the discretion of the city engineer. The city will determine what action is necessary.

A. All grading plans and building site surveys must be reviewed by the city for the effectiveness of erosion control measures in the context of site topography and drainage.

B. Sediment control measures must be properly installed by the builder before construction activity begins. Such structures may be adjusted during dry weather to accommodate short term activities, such as those allowing the passage of very large vehicles. As soon as this activity is finished or before the next runoff event, the erosion and sediment control structures must be returned to the configuration specified by the city. A sediment control inspection must then be scheduled, and passed before a footing inspection will be done.

C. Diversion of channeled runoff around disturbed areas, if practical, or the protection of the channel.

D. Easements. If a storm water management plan involves directing some or all of the site's runoff, the applicant or his designated representative shall obtain from adjacent property owners any necessary easements or other property interests concerning the flowing of such water.

E. The scheduling of the site's activities to lessen their impact on erosion and sediment creation, so as to minimize the amount of exposed soil.

F. Control runoff as follows (Either 1 and 2 or 1 and 3):

(1) Unless precluded by moderate or heavy snow cover (Mulching can still occur if a light snow cover is present.), stabilize all exposed inactive disturbed soil areas within two hundred (200) feet of any water of the state, or within two hundred (200) feet of any conveyance (curb, gutter, storm sewer inlet, drainage ditch, etc.) with sod, seed or weed-free mulch. This must be done, if the applicant will not work the area for seven (7) days on slopes greater than three (3) feet horizontal to one (1) foot vertical (3:1), fourteen (14) days on slopes ranging from 3:1 to 10:1 and twenty-one (21) days for slopes flatter than 10:1.

(2) For disturbed areas greater than five (5) acres construct temporary or permanent sedimentation basins. Sedimentation basins must have a minimum surface area equal of at least 1% of the area draining to basin, and be constructed in accordance with accepted design specifications including access for operations and maintenance. Basin discharge rates must also be controlled to prevent erosion in the discharge channel.

(3) For disturbed areas less than five (5) acres sedimentation basins are encouraged, but not required, unless required by the city engineer. The applicant shall install erosion and sediment controls at locations directed by the city. Minimum requirements include silt fences, rock check dams, or other equivalent control measures along slopes. Silt fences are required along channel edges to reduce the amount of sediment reaching the channel. Silt fences, rock check dams, etc. must be regularly inspected and maintained. The applicant is also required to obtain a National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) construction storm water permit from the Minnesota Pollution Control Agency for any project that disturbs one (1) acre or more of land. This one acre value also applies to a common plan of development or sale.

G. Sediment basins related to impervious surface area. Where a project's ultimate development replaces surface vegetation with one (1) or more acres of cumulative impervious surface, and all runoff has not been accounted for in a local unit of government's existing storm water management plan or practice, the runoff must be discharged to a wet sedimentation basin prior to entering waters of the state.

(1) At a minimum the work shall conform with the current version of the Minnesota Pollution Control Agency’s publication, “Protecting Water Quality in Urban Areas,” and the current requirements found in the same agency’s NPDES/SDS permits for storm water associated with construction activities.

H. Generally, sufficient silt fence shall be required to hold all sheet flow runoff generated at an individual site, until it can either infiltrate or seep through silt fence's pores.

I. Temporary stockpiling of fifty (50) or more cubic yards of excess soil on any lot or other vacant area shall not be allowed without issuance of a grading permit for the earth moving activity in question.

J. For soil stockpiles greater than ten (10) cubic yards the toe of the pile must be more than twenty-five (25) feet from a road, drainage channel or storm water inlet. If such stockpiles will be left for more than seven (7) days, they must be stabilized with mulch, vegetation, tarps or other means. If left for less than seven (7) days, erosion from stockpiles must be controlled with silt fences or rock check dams.

(1) If for any reason a soil or non-soil stockpile of any size is located closer than twenty-five (25)feet from a road, drainage channel or storm water inlet, and will be left for more than seven (7) days, it must be covered with tarps or controlled in some other manner.

(2) All non-soil (clean sand, gravel, concrete or bituminous) must at a minimum have a silt fencing or other effective sediment control measures installed.

K. All sand, gravel or other mining operations taking place on the development site shall apply for a Minnesota Pollution Control Agency National Pollutant Discharge Elimination System General Storm Water permit for industrial activities and all required Minnesota Department of Natural Resources permits.

L. Temporary rock construction entrances, or equally effective means of preventing vehicles from tracking sediment from the site, may be required wherever vehicles enter and exit a site.

(1) Vehicle tracking of sediment from the site must be minimized by BMPs such as stone pads, concrete or steel wash racks, or equivalent systems. Street sweeping must be used if such BMPs are not adequate.

M. Parking is prohibited on all bare lots and all temporary construction entrances, except where street parking is not available. Gravel entrances are to be used for deliveries only as per the development contract.

N. Streets must be cleaned and swept whenever tracking of sediments occurs. Sediment shall not be allowed to remain on the streets if the site is to be left idle for weekends or holidays. A regular sweeping schedule should be established.

O. Water (impacted by the construction activity) removed from the site by pumping must be treated by temporary sedimentation basins, geotextile filters, grit chambers, sand filters, up-flow chambers, hydro-cyclones, swirl concentrators or other appropriate controls**.** Such water shall not be discharged in a manner that causes erosion or flooding of the site, receiving channels, adjacent property or a wetland.

P. All storm drain inlets must be protected during construction until control measures are in place with either silt fence or an equivalent barrier that meets accepted design criteria, standards and specifications as contained in the latest version of the Minnesota Pollution Control Agency's publication, "Protecting Water Quality in Urban Areas."

Q. Roof drain leaders. All newly constructed and reconstructed buildings shall route roof drain leaders to pervious areas (not natural wetlands) where the runoff can infiltrate whenever practical. The discharge rate shall be controlled so that no erosion occurs in the pervious areas.

R. Removal from the project's site of more than one (1) acre of topsoil shall not be done, unless written permission is given by the city engineer. Excessive removal of topsoil from the project's site can cause significant current and future soil erosion problems.

S. Inspection and maintenance. All storm water pollution control management facilities must be designed to minimize the need of maintenance, to provide easy vehicle (typically eight (8) feet or wider) and personnel access for maintenance purposes and be structurally sound. These facilities must have Storm Water Maintenance Agreement that ensures continued effective removal of the pollutants carried in storm water runoff. The owner shall inspect all storm water management facilities during construction, twice during the first year of operation and at least once every year thereafter. The city will keep all inspection records on file for a period of six (6) years.

(1) Inspection and maintenance easements. It shall be the responsibility of the applicant to obtain any necessary easements or other property interests to allow access to the storm water management facilities for inspection and maintenance purpose.

T. Follow-up inspections must be performed by the owner on a regular basis to ensure that erosion and sediment control measures are properly installed and maintained. In all cases the inspectors will attempt to work with the applicant and/or builder to maintain proper erosion and sediment control at all sites.

(1) In cases where cooperation is withheld, construction stop orders may be issued by the city, until all erosion and sediment control measures meet specifications. A second erosion and sediment control/grading inspection must then be scheduled and passed before the final inspection will be done.

U. All infiltration areas must be inspected to ensure that sediment from ongoing construction activities is not reaching infiltration areas, and that these areas are also being protected from soil compaction from the movement of construction equipment.

7. Permanent Storm Water Pollution Controls.

A. The applicant shall install and construct all permanent storm water management facilities necessary to manage increased runoff, so that the discharge rates from storm water treatment basins, such that the predevelopment twenty-four (24) hour two (2) year, ten (10) year, and one hundred (100) year peak storm discharge rates are not increased. These predevelopment rates shall be based on the last ten (10) years of how that land was used. Accelerated channel erosion must not occur as a result of the proposed land disturbing or development activity.

(1) All calculations and information used in determining these peak storm discharge rates shall be submitted along with the storm water pollution control plan.

B. The applicant shall consider reducing the need for permanent storm water management facilities by incorporating the use of natural topography and land cover such as natural swales and depressions as they exist before development to the degree that they can accommodate the additional flow of treated (e.g., settled) water without compromising the integrity or quality of the wetland or pond.

C. The following permanent storm water management practices must be investigated in developing the storm water management part of the storm water pollution control plan in the following descending order of preference:

(1) Protect and preserve as much natural or vegetated area on the site as possible, minimizing impervious surfaces. Direct runoff to vegetated areas rather than to adjoining streets, storm sewers and ditches.

(2) Flow attenuation of treated storm water by the use of open vegetated swales and natural depressions.

(3) Storm water ponding facilities (including percolation facilities); and

(4) A combination of successive practices may be used to achieve the applicable minimum control requirements specified in subsection (C) above. The applicant shall provide justification for the method selected.

D. Redevelopment of existing parcels must provide treatment of stormwater from impervious surfaces even if the amount of impervious remains the same or is reduced.

Treatment may be accomplished through the use of ponding areas, infiltration areas, or structural stormwater treatment devices.

The applicant shall submit documentation showing the chosen method will remove in excess of 80% of suspended solids and other pollutants from a 1.5 inch 24 hour storm event.

E .The applicant shall be required to sign and file a Stormwater Maintenance Agreement that ensures continued effective removal of the pollutants carried in storm water runoff. The Agreement also ensures continued maintenance, cleaning and upkeep of the facility.

8. Minimum Design Standards for Storm Water Wet Detention Facilities. At a minimum these facilities must conform to the most current technology as reflected in the current version of the Minnesota Pollution Control Agency's publication, "Protecting Water Quality in Urban Areas" and the current requirements found in the same agency's NPDES permits for storm water associated with construction activities.

9. Minimum Protection for Natural Wetlands.

A. Runoff must not be discharged directly into wetlands without appropriate quality (e.i., treated) and quantity runoff control, depending on the individual wetland's vegetation sensitivity. See the current version of the Minnesota Pollution Control Agency's publication, "Storm-Water and Wetlands: Planning and Evaluation Guidelines for Addressing Potential Impacts of Urban Storm-Water and Snow-Melt Runoff on Wetlands" for guidance.

B. Wetlands must not be drained or filled, wholly or partially, unless replaced by either restoring or creating wetland areas of at least equal public value. Compensation, including the replacement ratio and quality of replacement should be consistent with the requirements outlined in the Board of Water and Soil Resources rules that implement the Minnesota Wetland Conservation Act of 1991 including any and all amendments to it.

C. Work in and around wetlands must be guided by the following principles in descending order of priority:

(1) Avoid both the direct and indirect impact of the activity that may destroy or diminish the wetland.

(2) Minimize the impact by limiting the degree or magnitude of the wetland related activity.

(3) Rectify the impact by repairing, rehabilitating, or restoring the affected wetland environment with one of at least equal public value.

(4) Reduce or eliminate the adverse impact over time by preservation and maintenance operations during the life of the activity.

10. Models/Methodologies/Computations. Hydrologic models and design methodologies used for the determining runoff characteristics and analyzing storm water management structures must be approved by the city engineer. Plans, specifications and computations for storm water management facilities submitted for review must be sealed and signed by a registered professional engineer. All computations must appear in the plans submitted for review, unless otherwise approved by the city engineer.

208.06 REVIEW

The city engineer shall review the storm water pollution control plan.

1. Permit Required. If the city determines that the storm water pollution control plan meets the requirements of this ordinance, the city shall issue a permit valid for a specified period of time, that authorizes the land disturbance activity contingent on the implementation and completion of the storm water pollution control plan.

2. Permit Denial. If the city determines that the storm water pollution control plan does not meet the requirements of this ordinance, the city shall not issue a permit for the land disturbance activity.

A. All land use and building permits for the site in question must be suspended until the applicant has an approved storm water pollution control plan.

3. Permit Suspension and Revocation If the storm water pollution control plan is not being implemented the city can suspend or revoke the permit authorizing the land disturbance activity.

208.07 MODIFICATION OF PLAN

An approved storm water pollution control plan may be modified on submission of a written application for modification to the city, and after written approval by the city engineer. In reviewing such an application, the city engineer may require additional reports and data.

1. Records Retention. The city shall retain the written records of such modifications for at least three (3) years.

208.08 FINANCIAL SECURITIES

The applicant shall provide a financial security for the performance of the work, in conjunction with a building permit or land alteration permit, described and delineated on the approved grading plan involving the storm water pollution control plan and any storm water and pollution control plan related remedial work in, at a rate of three thousand dollars ($3,000) per acre for the maximum acreage of soil that will be simultaneously exposed to erosion during the project's construction. (See the definitions of "exposed soil area" and "final stabilization" for clarification.) This security must be available prior to commencing the project. The form of the security must be:

A. By cash security deposited to the city for thirty percent (30%) of the total financial security when less than five (5) acres of soil will be simultaneously exposed. When over five (5) acres of soil will be simultaneously exposed to erosion, then the cash security increases to the first five thousand dollars ($5,000) or ten percent (10%) of the total financial security, whichever is greater.

B. The remainder of the financial security shall be placed either with the city, a responsible escrow agent, or trust company, at the option of the city, money, an irrevocable letter of credit, negotiable bonds of the kind approved for securing deposits of public money or other instruments of credit from one or more financial institutions, subject to regulation by the state and federal government wherein said financial institution pledges that the funds are on deposit and guaranteed for payment. This security shall save the city free and harmless from all suits or claims for damages resulting from the negligent grading, removal, placement or storage of rock, sand, gravel, soil or other like material within the city. The type of security must be of a type acceptable to the city.

C. The city may request a greater financial security, if the city considers that the development site is especially prone to erosion, or the resource to be protected is especially valuable.

D. If more soil is simultaneously exposed to erosion than originally planned, the amount of the security shall increase in relation to this additional exposure.

1. MAINTAINING THE FINANCIAL SECURITY

If at anytime during the course of the work this amount falls below 50% of the required deposit, the applicant shall make another deposit in the amount necessary to restore the deposit to the required amount within five (5) days. Otherwise the city may:

A. Withhold the scheduling of inspections and/or the issuance of a Certificate of Occupancy.

B. Revoke any permit issued by the city to the applicant for the site in question and any other of the applicant’s sites within the city’s jurisdiction.

2. PROPORTIONAL REDUCTION OF THE FINANCIAL SECURITY

When more than one-third of the applicant’s maximum exposed soil area achieves final stabilization, the city can reduce the total required amount of the financial security by one-third, if recommended in writing by the city engineer. When more than two-thirds of the applicant’s maximum exposed soil area achieves final stabilization, the city can reduce the total required amount of the financial security by two-thirds of the initial amount, if recommended in writing by the city engineer.

3. ACTION AGAINST THE FINANCIAL SECURITY

The city may act against the financial security, if any of the conditions listed below exist. The city shall use funds from this security to finance any corrective or remedial work undertaken by the city or a contractor under contract to the city and to reimburse the city for all direct cost incurred in the process of remedial work including, but not limited to, staff time and attorney's fees.

A. The applicant ceases land disturbing activities and/or filling and abandons the work site prior to completion of the city approved grading plan.

B. The applicant fails to conform to any city approved grading plan and/or the storm water pollution control plan as approved by the city, or related supplementary instructions.

C. The techniques utilized under the storm water pollution control plan fail within one (1) year of installation.

D. The applicant fails to reimburse the city for corrective action taken under 208.09.

E. Emergency action under either 208.08.4 (below) or any part of 208.09.

4. EMERGENCY ACTION

If circumstances exist such that noncompliance with this ordinance poses an immediate danger to the public health, safety and welfare, as determined by the city engineer, the city may take emergency preventative action. The city shall also take every reasonable action possible to contact and direct the applicant to take any necessary action. Any cost to the city may be recovered from the applicant's financial security.

5. RETURNING THE FINANCIAL SECURITY

Any unspent amount of the financial security deposited with the city for faithful performance of the storm water pollution control plan and any storm water and pollution control plan related remedial work must be released not more than one (1) full year after the completion of the installation of all such measures and the establishment of final stabilization.

208.09 NOTIFICATION OF FAILURE OF THE STORM WATER POLLUTION CONTROL PLAN

The city shall notify the applicant, when the city is going to act on the financial securities part of this ordinance.

1. NOTIFICATION BY THE CITY

The initial contact will be to the party or parties listed on the application and/or the storm water pollution control plan as contacts. Except during an emergency action under 208.08.4, forty-eight (48) hours after notification by the city or seventy-two (72) hours after the failure of erosion control measures, whichever is less, the city at its discretion, may begin corrective work. Such notification should be in writing, but if it is verbal, a written notification should follow as quickly as practical. If after making a good faith effort to notify the responsible party or parties, the city has been unable to establish contact, the city may proceed with the corrective work.

A. There are conditions when time is of the essence in controlling erosion. During such a condition the city may take immediate action, and then notify the applicant as soon as possible.

2. EROSION OFF-SITE

If erosion breaches the perimeter of the site, the applicant shall immediately develop a cleanup and restoration plan, obtain the right-of-entry from the adjoining property owner, and implement the cleanup and restoration plan within forty-eight (48) hours of obtaining the adjoining property owner's permission. In no case, unless written approval is received from the city, shall more than seven (7) calendar days go by without corrective action being taken. If in the discretion of the city, the applicant does not repair the damage caused by the erosion, the city may do the remedial work required and charge the cost to the applicant.

3. EROSION INTO STREETS, WETLANDS OR WATER BODIES

If eroded soils (including tracked soils from construction activities) enter or appear likely to enter streets, wetlands, or other water bodies, prevention strategies, cleanup and repair must be immediate. The applicant shall provide all traffic control and flagging required to protect the traveling public during the cleanup operations.

4. FAILURE TO DO CORRECTIVE WORK

When an applicant fails to conform to any provision of 208.08 or 208.09 within the time stipulated, the city may take the following actions:

A. Withhold the scheduling of inspections and/or the issuance of a Certificate of Occupancy.

B. Suspend or revoke any permit issued by the city to the applicant for the site in question or any other of the applicant’s sites within the city’s jurisdiction.

C. Direct the correction of the deficiency by city forces or by a separate contract. The issuance of a permit for land disturbance activity constitutes a right-of-entry for the city or its contractor to enter upon the construction site for the purpose of correcting erosion control deficiencies.

D. All costs incurred by the city in correcting storm water pollution control deficiencies must be reimbursed by the applicant. If payment is not made within thirty (30) days after costs are incurred by the city, payment will be made from the applicant’s financial securities as described in 208.08.

E. If there is an insufficient financial amount in the applicant's financial securities as described in 208.08, to cover the costs incurred by the city, then the city may assess the remaining amount against the property. As a condition of the permit for land disturbance activities, the owner shall waive notice of any assessment hearing to be conducted by the city, concur that the benefit to the property exceeds the amount of the proposed assessment, and waive all rights by virtue of Minnesota Statute 429.081 to challenge the amount or validity of the assessment.

208.10 VARIANCE

In any case where, upon application of the responsible person or persons, the city finds that by reason of exceptional circumstances, strict conformity with this ordinance would be unreasonable, impractical, or not feasible under the circumstances; the city in its discretion may grant a variance therefrom upon such conditions as it may prescribe for prevention, control, or abatement of pollution in harmony with the general purposes of this ordinance. The public shall be a given the opportunity for comment.

1. Variance Request. The variance request must be in writing in a form acceptable to the city.

2. Variance Public Notice. The variance request shall be public noticed in the normal manner used for city council meeting items, to allow the public an opportunity for comment.

3. Variance Determination. After the public has been given the right to comment, the variance shall either be approved or disapproved by a vote of the city council.

4. Variance Response. The variance response must be in writing, and include the justification for either granting or denying the requested variance. A favorable response shall also include any special conditions imposed by the city.

5. Time Limit. If the variance is not acted upon within one (1) year of being granted, the variance shall become void.

6. Revocation. If any of the variance's conditions are violated, the city may revoke the variance.

208.11 ENFORCEMENT

The city shall be responsible enforcing this ordinance.

1. Penalties. Any person, firm, or corporation failing to comply with or violating any of these regulations, shall be deemed guilty of a misdemeanor and be subject to a fine or imprisonment or both as defined in Chapter 901. All land use and building permits shall be suspended until the applicant has corrected the violation. Each day that a separate violation exists shall constitute a separate offense.

208.012 RIGHT OF ENTRY AND INSPECTION

1. Powers. The applicant shall promptly allow the city and their authorized representatives, upon presentation of credentials to:

A. Enter upon the permitted site for the purpose of obtaining information, examination of records, conducting investigations, inspections or surveys.

B. Bring such equipment upon the permitted site as is necessary to conduct such surveys and investigations.

C. Examine and copy any books, papers, records, or memoranda pertaining to activities or records required to be kept under the terms and conditions of this permitted site.

D. Inspect the storm water pollution control measures.

E. Sample and monitor any items or activities pertaining to storm water pollution control measures.

F. Any temporary or permanent obstruction to the safe and easy access of such an inspection shall be promptly removed upon the inspector's request. The cost of providing such access shall be born by the applicant.

208.13 ABROGATION AND GREATER RESTRICTIONS

It is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance imposes greater restrictions, the provisions of this ordinance shall prevail. All other ordinances inconsistent with this ordinance are hereby repealed to the extent of the inconsistency only.

208.14 SEVERABILITY

The provisions of this ordinance are severable, and if any provisions of this ordinance, or application of any provision of this ordinance to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this ordinance must not be affected thereby.

CITY OF FRIDLEY ZONING CODE
CHAPTER 205.32 O-7. SHORELAND OVERLAY DISTRICT
(Ref 1224)

205.32 O-7 SHORELAND OVERLAY DISTRICT

1. PURPOSE AND INTENT

A. The unregulated use of shorelands in the city affects the public health, safety and general welfare not only by contributing to pollution of public waters, but also by impairing the local tax base. Therefore, it is in the best interests of the public health, safety and welfare to provide for the wise use and development of shorelands of public waters.

B. Statutory authorization. These shoreland regulations are adopted pursuant to the authorization and policies contained in Minn. Stat. Ch. 103F, Minnesota Regulations, Parts 6120.2500 through 6120.3900, and the planning and zoning enabling legislation in Minn. Stat. Ch. 462.

C. Jurisdiction. The provisions of this Code shall apply to shorelands of the public water bodies as classified in Section 205.32.4.B of this Code. A body of water created by a private user where there was no previous shoreland may, at the discretion of the governing body, be exempt from this Code.

D. Compliance. The use of any shoreland of public waters; the size and shape of lots; the use, size, type and location of structures on lots; the grading and filling of any shoreland area; and the cutting of shoreland vegetation shall be in full compliance with the terms of this Code and other applicable regulations.

E. District application. The shoreland overlay district shall be superimposed (overlaid) upon all the zoning districts as identified in Chapter 205 of this Code as existing or amended by the text and map of this Code. The regulations and requirements imposed by the shoreland overlay district shall be in addition to those established by the base zoning district which jointly apply. Under joint application of the districts, the more restrictive requirements shall apply.

F. Exemption. A structure or use which was lawful before adoption of this Chapter, but which is not in conformity with the provisions of the shoreland overlay district, may be continued subject to Section 205.04.3 of this Code.

2. DISTRICT BOUNDARIES

The boundaries of the shoreland permit overlay district within the city consists of the first tier of riparian lots abutting a protected lake or tributary identified in Section 205.32.4.B of this Code. The specific boundaries of the shoreland permit overlay district are shown on the official Fridley Shoreland Overlay District Map in the Fridley Zoning Code.

3. DEFINITIONS

For the purpose of this Chapter certain terms and words are hereby defined: Words used in the present tense shall include the future; words in the singular include the plural, and the plural the singular; the word “building” shall include the word “structure”; and the word “lot” shall include the word “plot”; and the word “shall” is mandatory and not directory; and the word “including” shall mean “including, but not limited to”.

For the purpose of this district the following definitions shall apply:

A. Accessory Building.
A subordinate building or use which is located on the same lot as the principal building or use and is necessary or incidental to the conduct of the principal building or use.

B. Bluff.
Those steep slopes lying between the ordinary high water mark and the River Corridor boundary having an angle of ascent from the river of more than twelve percent (12%) from the horizontal.

C. Bluffline.
A line delineating the top of the bluff connecting the points at which the angle of ascent becomes less than twelve percent (12%). More than one (1) bluffline may be encountered.

D. Bluff Impact Zone
The area between the Bluffline and forty (40) feet inland from the bluff.

E. Commission.
The City of Fridley Planning Commission.

F. Commissioner.
The Commissioner of the Department of Natural Resources of the State of Minnesota.

G. Council.
The Fridley City Council.

H. Critical Area.
The area known as the Mississippi River Corridor Critical Area designated by the Governor in the Executive Order No. 130.

I. Development.
The making of any material change in the use or appearance of any structure or land including reconstruction; alteration of the size of any structure; alteration of the land; alteration of a shore or bank of a river, stream, lake or pond; a commencement of drilling (except to obtain soil samples); mining or excavation; demolition of a structure; clearing of land as an adjunct to construction; deposit of refuse, solid or liquid waste, or fill on a parcel of land; the dividing of land into two (2) or more parcels.

J. Impervious Surface.
A constructed hard surface that either prevents or retards the entry of water into the soil, and causes water to run off the surface in greater quantities and at an increased rate of flow than existed prior to development. Examples include rooftops, sidewalks, patios, driveways, parking lots, storage areas, and concrete, asphalt, or gravel roads.

K. Lot Coverage.
The amount of impervious surface on a lot.

L. Ordinary High Water Level.
Minnesota State Statute 103G.005, subdivision 14 defines ordinary high water level as the boundary of waterbasins, watercourses, public waters, and public waters wetlands, and:

(1) the ordinary high water level is an elevation delineating the highest water level that has been maintained for a sufficient period of time to leave evidence upon the landscape, commonly the point where the natural vegetation changes from predominantly aquatic to predominantly terrestrial;

(2) for watercourses, the ordinary high water level is the elevation of the top of the bank of the channel; and

(3) for reservoirs and flowages, the ordinary high water level is the operating elevation of the normal summer pool.

M. Shoreland
Shoreland means land located within the following distances from the ordinary high water elevation of public waters:

(1) land within 1,000 feet from the normal high watermark of a lake, pond, or flowage; and

(2) land within 300 feet of a river or stream or the landward side of a floodplain delineated by ordinance on the river or stream, whichever is greater.

N. Shore Impact Zone
The area between the ordinary high water mark and fifty (50) feet inland from the ordinary high water mark.

O. Structure.
Anything constructed or erected which requires location on or underground or attachment to something having location on or underground. This includes an edifice or building of any kind, or any piece of work artificially built up or composed of parts joined together in some definite manner, whether of a temporary or permanent character.

4. SHORELAND CLASSIFICATION SYSTEM

A. Public waters. The public waters of Fridley have been classified below consistent with the criteria found in Minnesota Regulations, Part 6120.3300, and the DNR Protected Waters Inventory Map for Anoka County, Minnesota.

B. Official map. The shoreland permit district for the waterbodies listed below shall be shown on the Fridley Zoning Map.

(1) Lakes

Recreational Development Lakes	*Protected Waters Inventory I.D. #*
Moore Lake	2-75P
Spring Lake	2-71P

General Development Lakes	*Protected Waters Inventory I.D. #*
Locke Lake	2 - 77P
Harris Pond	2-684W
Farr Lake	2-78P

Natural Environment Lakes	*Protected Waters Inventory I.D. #*
Public Water in Springbrook Park	2-688P

(2) Rivers and streams

Rivers	*From*	*To*
Mississippi River	Sec 3, T30N, R24W	Sec 34, T30N, R24W

Tributary Streams
Norton Creek
Oak Glen Creek
Rice Creek
Springbrook Creek
Stoneybrook Creek

5. ADMINISTRATION

A. Building permit required. A permit is required for the construction of buildings or building additions (and including such related activities as construction of decks and signs), and those grading and filling activities not exempted by this Code that occur within the shoreland district. Application for a building permit shall be filed with the zoning administrator or any staff persons designated by the city manager on an official application form of the city, accompanied by a fee as set forth in Chapter 11 of this Code. Where required by law, the building permit application shall be forwarded to the applicable watershed district for review and comment. The application shall include the necessary information so that the zoning administrator can determine the site's suitability for the intended use.

B. Variance. Variances may only be granted in accordance with Section 205.05.6 of this Code. A variance may not circumvent the general purposes and intent of this Code. No variance may be granted that would allow any use that is prohibited in the underlying zoning district in which the subject property is located.

C. Notifications to the Department of Natural Resources.

(1) *Public hearings.* Copies of all notices of any public hearings to consider variances, amendments, or special uses under local shoreland management controls must be sent to the commissioner or the commissioner's designated representative and postmarked at least ten days before the hearings. Notices of hearings to consider proposed subdivisions/plats must include copies of the subdivision/plat.

(2) *Approval.* A copy of approved amendments and subdivisions/plats, and final decisions granting variances or special uses under local shoreland management controls must be sent by the City to the commissioner or the commissioner's designated representative and postmarked within ten days of final action.

6. LAND USE DISTRICT DESCRIPTIONS

Allowed land uses within the shoreland district shall be determined by the underlying zoning district, as listed within Chapter 205 of City Code.

7. LOT AREA AND WIDTH STANDARDS

Lot area and width standards for residential development shall be regulated per the underlying zoning district in Chapter 205 of City Code.

8. PLACEMENT, DESIGN, AND HEIGHT OF STRUCTURES

A. Placement of structures on lots. When more than one setback applies to a site, structures and facilities must be located to meet all setbacks. Where structures exist on the adjoining lots on both sides of a proposed building site, structure setbacks may be altered without a variance to conform to the adjoining setbacks from the ordinary high water level, provided the proposed building site is not located in a shore impact zone or in a bluff impact zone. Structures shall be located as follows:

(1) *Required setbacks.* All required rear yard, side yard and front yard setbacks shall be met per the underlying zoning district.

(2) *Ordinary high water level setback.* Structure setbacks (in feet) from the ordinary high water level.

Classes of Public Waters	Structure Setbacks
General Development Lake	50 feet
Natural Environment Lake	150 feet
Recreational Development Lake	75 feet
River	100 feet
Tributary Stream	50 feet

(3) *Required bluff setback.* The following setback shall be applied, regardless of the classification of the water body:

Classes of Land	Structure Setback
Top of Bluff	40 feet

(4) *Bluff impact zones.* Structures and accessory facilities, except stairways and landings, must not be placed within bluff impact zones.

(5) *Height of structures.* Maximum allowable height for all structures shall be regulated per underlying zoning district in Chapter 205 of City Code.

B. Shoreland alterations. Alterations of vegetation and topography will be regulated to prevent erosion into public waters, fix nutrients, preserve shoreland aesthetics, preserve historic values, prevent bank slumping, and protect fish and wildlife habitat.

(1) *Vegetation alteration.* Removal or alteration of vegetation is allowed subject to the following standards:

a. Intensive vegetation clearing within the shore and bluff impact zones and on steep slopes is not allowed.

b. In shore and bluff impact zones and on steep slopes, limited clearing of trees and shrubs and cutting, pruning, and trimming of trees is allowed to provide a view to the water from the principal dwelling site and to accommodate the placement of stairways and landings, picnic areas, access paths, beach and watercraft access areas, and permitted water-oriented accessory structures or facilities provided that:

((i)). The screening of structures, vehicles, or other facilities as viewed from the water, assuming summer, leaf-on conditions, is not substantially reduced.
((ii)). Along rivers, existing shading of water surfaces is preserved.
((iii)). The above provisions are not applicable to the removal of trees, limbs, or branches that are dead, diseased, or pose safety hazards and the removal of plants deemed noxious under the Minnesota Noxious Weed Law.

(2) *Building permit.* Grading and filling and excavations necessary for the construction of structures and driveways under validly issued building permits for these facilities do not require the issuance of a separate shoreland grading and filling permit.

(3) *Land alteration permit.* Notwithstanding (2) above, a land alteration permit will be required for:

a. The movement of more than ten cubic yards of material on steep slopes or within shore or bluff impact zones.

b. The movement of more than 50 cubic yards of material outside of steep slopes and shore and bluff impact zones.

(4) *Conditions.* The following considerations and conditions must be adhered to during the issuance of building permits, land alteration permits, special use permits, variances and subdivision approvals:

a. Grading or filling in any type 2-8 wetland must be evaluated to determine how extensively the proposed activity would affect the following functional qualities of the wetland (This evaluation shall also include a determination of whether the wetland alteration being proposed requires permits, reviews, or approvals by other local, state, or federal agencies such as a watershed district, the Minnesota Department of Natural Resources, or the United States Army Corps of Engineers):

((i)) Sediment and pollutant trapping and retention.
((ii)) Storage of surface runoff to prevent or reduce flood damage.
((iii)) Fish and wildlife habitat.
((iv)) Recreational use.
((v)) Shoreline or bank stabilization.
((vi)) Noteworthiness, including special qualities such as historic significance, critical habitat for endangered plants and animals, or others.

b. Alterations must be designed and conducted in a manner that ensures only the smallest amount of bare ground is exposed for the shortest time possible.

c. Mulches or similar materials must be used, where necessary, for temporary bare soil coverage, and a permanent vegetation cover must be established as soon as possible.

d. Methods to minimize soil erosion and to trap sediments before they reach any surface water feature must be used.

e. Altered areas must be stabilized to acceptable erosion control standards consistent with the field office technical guides of the local soil and water conservation districts and the United States Soil Conservation Service.

f. Fill or excavated material must not be placed in a manner that creates an unstable slope.

g. Plans to place fill or excavated material on steep slopes must be reviewed by qualified professionals for continued slope stability and must create finished slopes of less than 3:1 slope.

h. Fill or excavated material must not be placed in bluff impact zones.

i. Any alterations below the ordinary high water level of public waters must first be authorized by the commissioner under Minn. Stat. § 103G.245.

j. Alterations of topography must only be allowed if they are accessory to permitted or special uses and do not adversely affect adjacent or nearby properties.

k. Placement of natural rock rip rap, including associated grading of the shoreline and placement of a filter blanket, is permitted if the finished slope does not exceed three feet horizontal to one foot vertical, the landward extent of the rip rap is within ten feet of the ordinary high water level, and the height of the rip rap above the ordinary high water level does not exceed three feet. Must be done in accordance with other State and Federal regulations. Permit from DNR is required.

(5) *Connections to public waters.* Excavations where the intended purpose is connection to a public water, such as boat slips, canals, lagoons, and harbors, must be controlled by local shoreland controls. Permission for excavations may be given only after written authorization has been obtained from the Minnesota Department of Natural Resources approving the proposed connection to public waters.

C. Stormwater management. The following general and specific standards shall apply:

(1) *General standards.*

a. When possible, existing natural drainage-ways, wetlands, and vegetated soil surfaces must be used to convey, store, filter, and retain stormwater runoff before discharge to public waters.

b. Development must be planned and conducted in a manner that will minimize the extent of disturbed areas, runoff velocities, erosion potential, and reduce and delay runoff velocities, erosion potential, and reduce and delay runoff volumes. Disturbed areas must be stabilized and protected as soon as possible and facilities or methods used to retain sediment on the site.

c. When development density, topographic features, and soil and vegetation conditions are not sufficient to adequately handle stormwater runoff using natural features and vegetation, various types of constructed facilities such as diversions, settling basins, skimming devices, dikes, waterways, and ponds may be used. Preference must be given to designs using surface drainage, vegetation, and infiltration rather than buried pipes and manmade materials and facilities.

(2) *Specific standards.*

a. Impervious surface lot coverage shall not exceed 35 percent of the lot area, except as a variance, which shall comply with the following standards:

((i)) All structures, additions or expansions shall meet setback and other requirements of this Code.

((ii)) The lot shall be served with municipal sewer and water.

((iii)) The lot shall provide for the collection and treatment of stormwater in compliance with Chapter 208 of City Code if determined that the site improvements will result in increased runoff directly entering a public water. All development plans shall require review and approval by the city engineer and the underlying watershed district.

((iv)) Measures to be taken from the treatment of stormwater runoff and/or prevention of stormwater from directly entering a public water. The measures may include, but not be limited to the following:

(A) Appurtenances as sedimentation basins debris basins, desilting basins, or silt traps.
(B) Installation of debris guards and microsilt basins on storm sewer inlets.
(C) Use where practical, oil skimming devices or sump catch basins.
(D) Direct drainage away from the lake and into pervious, grassed, yards through site grading, use of gutters and down spouts.
(E) Construction sidewalks of partially pervious raised materials such as decking which has natural earth or other pervious material beneath or between the planking.
(F) Use grading and construction techniques which encourage rapid infiltration, e.g., sand and gravel under impervious materials with adjacent infiltration swales graded to lead into them.
(G) Install berms, water bars, or terraces which temporarily detain water before dispersing it into pervious area.

b. When constructed facilities are used for stormwater management, documentation must be provided by a qualified individual that they are designed and installed consistent with the field office technical guide of the local soil and water conservation districts.

c. New constructed stormwater outfall to public waters must provide for filtering or settling of suspended solids and skimming or surface debris before discharge.

(3) *Nonconformities.* All legally established nonconformities as of the date of this section may continue, but they will be managed according to section 205.32.5.B of this Code with the following exceptions:

a. Decks are allowed as a conforming use provided all of the following criteria and standards are met:

((i)). The principle structure existed on the date the structure setbacks were established.
((ii)). No other reasonable location for a deck exists.
((iii)). The deck encroachment toward the ordinary high water level maintains a minimum setback in accordance with applicable code sections and a maximum encroachment of 10 feet into the Bluff Impact Zone or Shore Impact Zone.
((iv)). The deck is framed construction, and is not roofed or screened.

9. PUBLIC NUISANCE: PENALTY

A. Any person who violates any provisions of this district or fails to comply with any of its terms or requirements shall be guilty of a misdemeanor punishable by a fine of not more than $500 or imprisoned for not more than ninety (90) days, or both, and in addition shall pay all costs of prosecution and expenses involved in the case. Each day such violation continues shall be considered a separate offense.

B. Every obstruction or use placed or maintained in the Preservation District in violation of this Chapter is hereby declared to be a public nuisance and creation thereof may be enjoined and the maintenance thereof abated by appropriate judicial action.

C. Nothing herein contained shall prevent the City from taking such other lawful action as is necessary to prevent, remedy or remove any violation.

CITY OF FRIDLEY

Shoreland Overlay District

GIS
City of Fridley

MAP DATE
January 4, 2005

MAP REVISION DATE
August 16, 2005

Shoreland Parcels with Zoning	Parcel Count
R-1 - One Family Units	395
R-2 - Two Family Units	27
R-3 - General Multiple Units	1
R-4 - Mobile Home Parks	
PUD - Planned Unit Development	9
S-1 - Hyde Park Neighborhoods	
S-2 - Redevelopment District	
S-3 - Heavy Ind, Onaway Addition	
C-1 - Local Business	
C-2 - General Business	1
C-3 - General Shopping	2
C-R1 - General Office	
M-1 - Light Industrial	1
M-2 - Heavy Industrial	1
M-3 - Outdoor Intensive Heavy Industrial	
M-4 Manufacturing Only	
RR - Railroads	
P - Public Facilities	59

DISCLAMER

This is an approximate representation of parcel and lake boundaries. Square footages derived from this representation and are not accurate real world measurements.

SOURCES

Anoka County GIS
Fridley GIS

N

0 0.25 0.5 1
Miles

FRIDLEY CITY CODE
CHAPTER 215. PUBLIC WATERS AND WATERWAYS
(Ref. 465)

215.01. PERMIT REQUIRED

No person shall change, alter or construct any bridge or structure over the water's surface or cause any obstruction or change in the course, current or cross section of any of the following public waterways and lakes within the City of Fridley: Rice Creek, Oak Glen Creek, Spring Brook Creek, Stonybrook Creek, Norton Creek, Moore Lake and Locke Lake without a permit from the City Engineer of the City of Fridley.

215.02. APPLICATION

Any person desiring a permit shall first submit a written application to the City Engineer of Fridley containing the following information:

1. Names and addresses of applicant;

2. Legal description and location of waterways and lands adjacent thereto;

3. Nature of proposed construction or alteration;

4. Starting date and approximate completion date of the operation or alteration;

5. The names and addresses of all owners and occupants of the adjoining land that may be affected by said construction or alteration of the waterway; and,

6. A copy of a permit or waiver from State of Minnesota Commissioner of Conservation.

215.03. APPROVAL AND HEARING

The City Engineer may issue the permit upon receipt of the completed application and upon approval of the City Council, after a public hearing in which the questions of public benefit has been considered.

215.04. PENALTIES

Any violation of this Chapter is a misdemeanor and is subject to all penalties provided for such violations under the provisions of Chapter 901 of this Code.

FRIDLEY CITY CODE

CHAPTER 224. STORMWATER ILLICIT DISCHARGE DETECTION AND ELIMINATION (Ref Ord 1288)

224.01. PURPOSE OF CHAPTER

The purpose of this chapter is to provide for the health, safety, and general welfare of the citizens of the City of Fridley through the regulation of non-stormwater discharges to the storm drainage system to the maximum extent practicable as required by federal and state law. This chapter establishes methods for controlling the introduction of pollutants into the municipal separate storm sewer system (MS4) in order to comply with requirements of the MS4 permit issued to the City of Fridley by the Minnesota Pollution Control Agency (MPCA) under the National Pollutant Discharge Elimination System (NPDES) permit process. The objectives of this chapter are:

1. To regulate the contribution of pollutants to the MS4 by stormwater discharges by any user.

2. To prohibit illicit connections and discharges to the MS4.

3. To establish legal authority to carry out all inspection, surveillance, monitoring, and enforcement procedures necessary to ensure compliance with this chapter.

224.02. DEFINITIONS

The following words, terms and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

1. Best Management Practices or BMPs means practices approved by the City of Fridley to prevent or reduce the pollution of the Waters of the State, including schedules of activities, prohibitions of practices, and other management practices, and also includes treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge, or waste disposal or drainage from raw material storage.

2. City Manager means the City Manager as defined in the City of Fridley Charter, or the City Manager's designee.

3. Hazardous materials means any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

4. Illicit discharge means any direct or indirect non-stormwater discharge to the storm drainage system, except as exempted in Section 224.08 of this chapter.

5. Illicit connection is defined as either of the following:

   A. Any drain or conveyance, whether on the surface or subsurface that allows an illicit discharge to enter the storm drainage system including but not limited to sewage, process wastewater, wash water and any connections to the storm drainage system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by an authorized enforcement agency; or

   B. Any drain or conveyance connected from a commercial or industrial land use to the storm drainage system that has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.

6. Industrial activity means activities subject to NPDES Industrial Stormwater Permits as defined in 40 CFR, Section 122.26 (b)(14) titled Storm water discharge associated with industrial activity.

7. Municipal separate storm sewer system (MS4) means the system of conveyances (including sidewalks, roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) owned and operated by the City of Fridley and designed or used for collecting or conveying stormwater, and that is not used for collecting or conveying sewage.

8. National Pollutant Discharge Elimination System (NPDES) Stormwater Discharge Permit means a permit issued by Minnesota Pollution Control Agency (MPCA) that authorizes the discharge of pollutants to Waters of the State, whether the permit is applicable on an individual, group, or general area-wide basis.

9. Non-stormwater discharge means any discharge to the storm drainage system that is not composed entirely of stormwater.

10. Person means any individual, association, organization, partnership, firm, corporation or other entity recognized by law and acting as either the owner or as the owner's agent.

11. Pollutant means anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordinances, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

12. Premises means any building, structure, facility, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

13. Storm drainage system means publicly-owned facilities by which stormwater is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.

14. Stormwater (also storm water) means any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation.

15. Stormwater management plan means a document which describes the best management practices and activities to be implemented by a person or business to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharges to stormwater, stormwater conveyance systems, and/or receiving waters to the maximum extent practicable.

16. Wastewater means any water or other liquid, other than uncontaminated stormwater, discharged from a premises.

17. Watercourse means a ditch, stream, creek, or other defined channel intended for the conveyance of water runoff, groundwater discharge or similar hydraulic or hydrologic purpose.

18. Waters of the State means, "all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state or any portion thereof" as currently defined in Minnesota Statutes Section 115.01, Subdivision 22, and as may be further amended from time to time.

224.03. APPLICABILITY

This chapter shall apply to all water entering the storm drainage system generated on any developed and undeveloped lands unless explicitly exempted by the City of Fridley.

224.04. RESPONSIBILITY FOR ADMINISTRATION

The City of Fridley shall administer, implement, and enforce the provisions of this chapter. Any powers granted or duties imposed upon the City of Fridley may be delegated in writing by the City Manager to persons or entities acting in the beneficial interest of or in the employ of the City.

224.05. COMPATIBILITY WITH OTHER REGULATIONS

This chapter is not intended to modify or repeal any other ordinance, rule, regulation, or other provision of law. The requirements of this chapter are in addition to the requirements of any other ordinance, rule, regulation, or other provision of law, and where any provision of this chapter imposes restrictions different from those imposed by any other ordinance, rule, regulation, or other provision of law, whichever provision is more restrictive or imposes higher protective standards for human health or the environment shall control.

224.06. SEVERABILITY

The provisions of this chapter are hereby declared to be severable. If any provision, clause, sentence, or paragraph of this chapter or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this chapter.

224.07. ULTIMATE RESPONSIBILITY

The standards set forth herein and promulgated pursuant to this chapter are minimum standards; therefore this chapter does not intend or imply that compliance by any person will ensure that there will be no contamination, pollution, or unauthorized discharge of pollutants.

224.08. DISCHARGE PROHIBITIONS

1. Prohibition of illicit discharges. No person shall throw, drain, or otherwise discharge, cause, or allow others under its control to throw, drain, or otherwise discharge into the MS4 any pollutants or waters containing any pollutants, other than stormwater. The commencement, conduct or continuance of any illicit discharge to the storm drainage system is prohibited except as described as follows:

   A. Discharges from the following sources are exempt from discharge prohibitions established by this chapter: flows from riparian habitats and wetlands, diverted stream flows, rising groundwater, springs, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, uncontaminated water from foundation or footing drains, crawl space pumps, air conditioning condensate, irrigation water, lawn watering discharge, individual residential car washing, water hydrant flushing or other water treatment or distribution system, discharges from potable water sources, and street wash water.

      1) Discharge of swimming pools, crawl spaces, sump pumps, footing drains, and other sources that may be determined to contain sediment or other forms of pollutants may not be discharged directly to a gutter or storm sewer. This discharge must flow over a vegetated area to allow filtering of pollutants, evaporation of chemicals, and infiltration of water consistent with the stormwater requirements of the City of Fridley.

   B. Discharges or flow from firefighting and other discharges specified in writing by the City of Fridley as being necessary to protect public health and safety.

   C. Discharges associated with dye testing; however this activity requires a verbal notification to the City of Fridley prior to the start of any testing.

   D. Discharges associated with the necessary use of snow and ice control materials on paved surfaces.

   E. Any non-stormwater discharge permitted under and NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of Minnesota Pollution Control Agency (MPCA), provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the storm drainage system.

2. Prohibition of illicit connections.

   A. The construction, use, maintenance or continued existence of illicit connections to the storm drainage system is prohibited.

   B. This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

   C. A person is considered to be in violation of this chapter if the person connects a line conveying sewage to the MS4, or allows such a connection to continue.

D. Connections in violation of this chapter must be disconnected and redirected, if necessary, to an approved onsite wastewater management system or the sanitary sewer system upon approval of the City of Fridley.

E. Any drain or conveyance that has not been documented in plans, maps or equivalent, and which may be connected to the storm sewer system, shall be located by the owner or occupant of that property at the owner's or occupant's sole expense upon receipt of written notice of violation from the City of Fridley requiring that such locating be completed. Such notice will specify a reasonable time period within which the location of the drain or conveyance is to be determined, that the drain or conveyance be identified as storm sewer, sanitary sewer or other, and that the outfall location or point of connection to the storm sewer system, sanitary sewer system or other discharge point be identified. Results of these investigations are to be documented and provided to the City of Fridley.

224.09. WATERCOURSE PROTECTION

Every person owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property free of trash, debris, yard waste, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures at the owner's or lessee's sole expense within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse.

224.10. RIGHT OF ENTRY

Provided the City of Fridley gives 24-hours advance notice, the City of Fridley shall be permitted to enter and inspect premises subject to regulation under this chapter as often as may be necessary when entrance is deemed by the City to be necessary to determine compliance with this chapter. However, in cases of emergency or ongoing discharge, the City of Fridley shall be given immediate access.

1. Unreasonable delay in allowing the City of Fridley access to a premises is a violation of this ordinance.

2. The City of Fridley may seek issuance of an administrative search warrant from any court of competent jurisdiction if it has been refused access to any part of the premises from which storm water is discharged, and 1) is able to demonstrate probably cause to believe that there may be a violation of this chapter, or 2) that there is a need to inspect and/or sample as part of a routine inspection and such sampling program is designed to verify compliance with this ordinance or any order issued hereunder, or 3) to protect the overall public health, safety, and welfare of the community.

224.11. REQUIREMENT TO PREVENT, CONTROL, AND REDUCE STORMWATER POLLUTANTS BY THE USE OF BEST MANAGEMENT PRACTICES

The City of Fridley will adopt requirements identifying BMPs for any activity, operation, or premises which may cause or contribute to pollution or contamination of stormwater, the storm drainage system, or Waters of the State. The owner or operator of such activity, operation, or premises shall provide, at their owner's or operator's sole expense, reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drainage system or watercourses through the use of these structural and nonstructural BMPs.

Further, any person responsible for a property or premises that is, or may be, the source of an illicit discharge, may be required to implement, at said person's sole expense, additional structural and non-structural BMPs to prevent the further discharge of pollutants to the MS4. Compliance with all terms and conditions of a valid NPDES permit authorizing the discharge of stormwater associated with industrial activity, to the extent practicable, shall be deemed proof of compliance with the provisions of this section. These BMPs shall be part of a stormwater management plan (SWMP) as necessary for compliance with requirements of the NPDES permit.

224.12. VIOLATIONS AND PENALTIES

Any person violating any provision of this chapter is guilty of a misdemeanor and may be prosecuted for violations of this chapter. In addition to criminal prosecution for violations of this chapter, the City of Fridley may, in its discretion, invoke any of the following remedies for violations of this chapter:

1. Emergency cease and desist orders. When the City of Fridley finds that any person has violated, or continues to violate, any provision of this chapter, or any order issued hereunder, or that the person's past violations are likely to recur, and that the person's violation(s) has (have) caused or contributed to an actual or threatened discharge to the MS4 or Waters of the State which reasonably appears to present an imminent or substantial endangerment to the health or welfare of persons or to the environment, the City of Fridley may issue an order to the violator directing it immediately to cease and desist all such violations.

2. Stop work orders. When the City of Fridley finds that construction activity has resulted in violations of any provision of this chapter or any order issued hereunder, or that the person’s past violations are likely to recur, the City of Fridley may issue a stop work to the violator, directing the violator to stop work immediately and directing that no further work be performed until compliance with this chapter is demonstrated.

3. Written warnings. When the City of Fridley finds that a person has violated a prohibition or failed to meet a requirement of this chapter and the violation or failure to meet a requirement has no ongoing adverse impact to the MS4 or Waters of the State, it may issue a written warning to the violator, provided that it is the person’s first violation or failure to meet a requirement, to obtain voluntary compliance with this chapter.

4. Notice of violation. Whenever the City of Fridley finds that a person has violated a prohibition or failed to meet a requirement of this chapter, it may order compliance by written notice of violation to the person. Such notice may require without limitation:

    A. The performance of monitoring, analysis, and reporting;

    B. The elimination of illicit connections or discharges;

    C. That violating discharges, practices, or operations shall cease and desist;

    D. The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property;

E. The implementation of source control or treatment BMPs. If abatement of a violation and/or restoration of affected property is required, the notice shall set forth a deadline within which such remediation or restoration must be completed. Said notice shall further advise that, should the violator fail to remediate or restore within the established deadline, the work will be done by a designated governmental agency or a contractor and the expense thereof shall be charged to the violator;

F. The notice shall state that the determination of violation may be appealed by the use of the process described in this chapter.

G. Any person receiving a notice of violation may appeal the determination of the City of Fridley. The notice of appeal must be received by the City Clerk within seven (7) calendar days from the date of the notice of violation. Hearing on the appeal before the City Manager shall take place within seven (7) calendar days from the date of receipt of the notice of appeal. The decision of the City Manager or shall be final.

H. If the violation has not been corrected pursuant to the requirements set forth in the notice of violation, or, in the event of an appeal within fifteen (15) days of the decision of the City Manager upholding the decision of the City of Fridley, then representatives of the City of Fridley may enter upon the subject private property and are authorized to take any and all measures necessary to abate the violation and/or restore the property. It shall be unlawful for any person, owner, agent or person in possession of any premises to refuse to allow the government agency or designated contractor to enter upon the premises for the purposes set forth above.

5. Suspension due illicit discharge. The City of Fridley may suspend MS4 discharge access under the following circumstances:

A. Suspension due to illicit discharge in emergency situations. The City of Fridley may, without prior notice, suspend MS4 discharge access to a person when such suspension is necessary to stop an actual or threatened discharge that presents or may present imminent and substantial danger to the environment, or to the health or welfare of persons, or to the MS4 or Waters of the State. If the violator fails to comply with a suspension order issued in an emergency, the City of Fridley may take such steps as it deems necessary to prevent or minimize damage to the MS4 or Waters of the State.

B. Suspension due to detection of illicit discharge. Any person discharging to the MS4 in violation of this chapter may have its MS4 access suspended if such suspension would abate or reduce an illicit discharge. The City of Fridley will notify the violator of the proposed suspension of its MS4 access. The person may petition the City of Fridley for reconsideration and hearing. A person commits an offense if the violator reinstates MS4 access to premises suspended pursuant to this chapter, without the prior approval of the City of Fridley.

6. Violations deemed a public nuisance. In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this chapter is a threat to public health, safety, and welfare, and is declared and deemed a nuisance.

224.13 COST OF ABATEMENT

Within thirty (30) days after abatement of a violation of this chapter, the owner of the property will be notified of the cost of abatement, including administrative costs. If the amount due is not paid within thirty (30) days, or other term approved by the City Manager, the City of Fridley may levy the charges as a special assessment against the property pursuant to Chapter 429 of Minnesota Statutes, including Minnesota Statutes § 429.101. The assessments shall constitute a lien on the property for the amount of the assessment. Any person violating any of the provisions of this chapter shall become liable to the City by reason of such violation.

224.14. REMEDIES NOT EXCLUSIVE

The remedies listed in this chapter are not exclusive of any other remedies, including but not limited to civil action to enjoin or otherwise compel the cessation of any violation of this chapter, available under any applicable federal, state or local law, and it is within the discretion of the City of Fridley to seek cumulative remedies. The City of Fridley may recover all attorneys' fees, court costs and other expenses associated with enforcement of this chapter, including sampling and monitoring expenses.

Appendix E
MWMO Standards

3.1.3 THE MWMO'S STANDARDS LANGUAGE

1. **Stormwater Management Standards**
   a. Any project creating greater than one acre of land disturbance is subject to the standards below.
   b. The MWMO's Standards, or higher, must be adopted by local units of government and incorporated into their stormwater ordinance or other regulatory control.
   c. In order to reduce regulatory complexity, a member may request the MWMO to allow stormwater rules set forth by adjacent watershed management organizations to govern development so long as they can be shown to be substantially equal to or greater than the level of protection afforded by the MWMO Standards.
   d. Road mill and overlay project activities need only to comply with MWMO erosion and sediment control standards.
   e. See the land disturbance definition for activities that shall not be considered land disturbance for the purposes of determining permanent stormwater management requirements.

2. **Rate Control**
   Runoff rates for the proposed activity shall meet the member cities and MS4's runoff rate control requirements, using the member cities' and MS4's required critical storm events (as defined by Atlas 14 Volume 8 and/or subsequent revisions). Runoff rates for the proposed activity and pre-development shall be determined using an Atlas 14-based (nested, regional, state) rainfall distribution using NRCS-approved methodology.

   All area contributing to the practice shall be accounted for in the design of the rate control practice. This includes areas off site and beyond the public right-of-way that will be contributing to the practice.

3. **Water Quality / Volume Control**
   a. For nonlinear projects, without limitations, that disturb one or more acre of land, 1.1 inches of runoff from the new and fully reconstructed impervious surfaces shall be captured and retained on site.
   b. For linear projects on sites, without limitations, that disturb one or more acre of land, the larger of the following shall be captured and retained on site:
      i. 0.55 inches of runoff from the new and fully reconstructed impervious surfaces
      ii. 1.1 inches of runoff from the net increase in impervious area
   c. For projects on sites with limitations, the MWMO Design Sequence Flow Chart (Appendix Q) or a MWMO-approved alternative shall be used to identify a path to compliance through Flexible Treatment Options.
      i. The MWMO will develop a MOU with individual member cities and MS4's to address flexible treatment option #3 off site mitigation conditions.

4. **Volume Control Guidance (recommended procedures for volume control projects)**
   a. Infiltration volumes and facility sizes shall be calculated using the appropriate hydrologic soil group classification, ASTM Unified Soil Class Symbol, and design infiltration rate from Table B. Select the design infiltration rate from Table B based on the least permeable soil horizon within the first five feet below the bottom elevation of the proposed infiltration management practice. The information provided in Table B is intended to be used in the following manner:

i. For preliminary design purposes, refer to the NRCS soil survey to identify the hydrologic soil groups found on site. This information provides a preliminary indication of the infiltration capacity of the underlying soils.
ii. After volume control/infiltration practices have been located on the grading plans, perform soil borings in the exact location of the proposed practices and in the quantity as described in the Minnesota Stormwater Manual Wiki (Minnesota Pollution Control Agency, 2014) as amended. Soil borings should be logged using the USDA Soil Textural Classification System and the ASTM Unified Soil Class Symbol.
iii. The combination of all the aforementioned information will allow the designer to identify the appropriate design infiltration rate. As the Minnesota Stormwater Manual States, "these infiltration rates represent the long-term infiltration capacity of a constructed infiltration practice and are not meant to exhibit the capacity of the soils in the natural state". A permit applicant can submit field measurements and revised rates (using the correction factors provided in the Minnesota Stormwater Manual) if there is reason to believe the long-term infiltration rates will be other than the design infiltration rates provided in Table B.

b. A geotechnical investigation shall be performed in the location of the proposed volume control practices to confirm or determine underlying soil types, the depth to the seasonally high groundwater table, and the depth to bedrock or other impermeable layer.
c. Infiltration BMPs shall drawdown in the time specified in the Minnesota Stormwater Manual Wiki for that BMP, or less if required by another entity with jurisdiction. Drawdown time and maximum ponding depths are defined in the Minnesota Stormwater Manual Wiki.
d. Infiltration stormwater management practices must be designed to include adequate pretreatment measures before discharge of runoff to the primary infiltration area, consistent with the Minnesota Stormwater Manual Wiki.
e. Design and placement of infiltration stormwater management practices shall be done in accordance with the Minnesota Department of Health guidance called "Evaluating Proposed Stormwater Infiltration Projects in Vulnerable Wellhead Protection Areas." (Final version to govern)
f. Specific site conditions may make infiltration difficult, undesirable, or impossible. Some of these conditions are listed in Table A. A more comprehensive list is provided in the MWMO Design Sequence Flow Chart in Appendix Q.

Table A: Site Conditions Considered Undesirable for Infiltration Stormwater Management Practices

Type	Specific Site Conditions	Submittal Requirements
Potential Contamination	Potential Stormwater Hotspots (PSHs)	PSH locations and flow paths, Remediation Alternatives Considered
	Contaminated Soils	State Permitted Brownfield Documentation, Soil Borings, Remediation Alternatives Considered, Site design alternatives considered
Physical Limitations	Low Permeability (Type D Soils)	Soil Borings
	High Permeability (soils infiltrating greater than	Soil Borings

	8.3 inches/hour)	
	Bedrock within 5 vertical feet of bottom of infiltration area	Soil Borings
	Potential Adverse Hydrologic Impacts (e.g., impacting perched wetland)	Documentation of Potential Adverse Hydrologic Impacts
	Seasonal High Groundwater within 5 vertical feet of bottom of infiltration area	Soil Borings
	Karst Areas	Soil Borings
	Steep Slopes	Steep Slope Determination
Land Use Limitations	Utility Locations	Site Map, Alternatives considered
	Zoning or Land Use Limitations (Parking, Density, Setbacks, etc.)	Alternatives considered, Documentation of Infeasibility
	Adjacent Wells within 200 feet or inside Wellhead Protection Area or Drinking Water Supply Management Areas (DWSMA)	Well Locations or DWSMA
	Building Foundation	Ten (10) feet

Source: Modified from Minnesota Pollution Control Agency Minimal Impact Design Standards Design Sequence Flow Chart, December 5, 2013

Note: the most recent version of the Minnesota Stormwater Manual should be used; Table A is provided as optional guidance to the cities

Table B. Design Infiltration Rates

Hydrologic Soil Group	Soil Textures[1]	ASTM Unified Soil Class Symbols	Rate
A	Gravel, sandy gravel, silty gravel	GW, GP, GM, SW	1.63 in/hr
	Sand, loamy sand, sandy loam	SP	0.80 in/hr
B	Loam, silt loam	SM	0.45 in/hr
		MH	0.30 in/hr
C	Sandy clay loam	ML	0.20 in/hr
D	Clay, clay loam, silty clay loam, sandy clay, silty clay	CL, CH, OH, OL, GC, SC	0.06 in/hr

Source: Minnesota Stormwater Manual Wiki, October 2014

Note: Design infiltration rates from the most recent version of the Minnesota Stormwater Manual should be used

1 Adapted from the U.S. Department of Agriculture, Natural Resources Conservation Services, 2005. National Soil Survey Handbook, title 430-VI.

5. **Maintenance**
   a. Practices must continue to perform as approved. Owners must follow an inspection and maintenance schedule that has been approved by the permitting entity and correct any post-construction performance issues that arise.
   b. All stormwater management structures and facilities, including volume reduction stormwater management practices, shall be maintained to assure that the structures and facilities function as originally designed. The maintenance responsibilities must be assumed by either the municipality's acceptance of the required easements dedicated to stormwater management purposes, or by the applicant executing and recording a maintenance agreement, or by another enforceable means acceptable to the LGU. If used, the recordable executed agreement must be submitted to the municipality prior to issuance of the project approval from the city." Public developments will require a maintenance agreement in the form of a Memorandum of Agreement or an approved Local Water Management Plan or in compliance with an MS4 Permit that details the methods, schedule, and responsible parties for maintenance of stormwater management facilities for permitted development. A single Memorandum of Agreement for each local government unit may be used to cover all stormwater management structures and facilities required herein, including volume reductions management practices, within the LGU's jurisdiction. This maintenance plan shall address snow management.

6. **Drainage Alterations**
   No person shall alter stormwater flows (resulting in an increase in stormwater flows or a change in existing flow route) at a property boundary by changing land contours, diverting or obstructing surface or channel flow, or creating a basin outlet, without first obtaining any necessary permits from the city..

7. **Bounce and Duration Control**
   a. The project must meet hydroperiod standards adapted from "Stormwater and Wetlands Planning and Evaluation Guidelines for Addressing Potential Impacts of Urban Stormwater and Snowmelt Runoff on Wetlands," (Minnesota Stormwater Advisory Group, June 1997), as follows:
      i. Wetland Susceptibility Class = Highly Susceptible; Permit Storm Bounce = Existing; Inundation Period for 2-Year event = Existing; Inundation Period for 10-year or Greater Event = Existing
      ii. Wetland Susceptibility Class = Moderately Susceptible; Permit Storm Bounce = Existing plus 0.5 feet; Inundation Period for 2-Year event = Existing plus 1 days; Inundation Period for 10-year or Greater Event = Existing plus 7 days
      iii. Wetland Susceptibility Class = Slightly Susceptible; Permit Storm Bounce = Existing plus 1.0 feet; Inundation Period for 2-Year event = Existing plus 2 days; Inundation Period for 10-year or Greater Event = Existing plus 14 days
      iv. Wetland Susceptibility Class = Least Susceptible; Permit Storm Bounce = No Limit; Inundation Period for 2-Year event = Existing plus 7 days; Inundation Period for 10-year or Greater Event = Existing plus 21 days

8. **Flood Control**
   Flood control for the proposed activity shall meet the member cities or MS4's flood control requirements. Member cities and MS4's flood control requirements should minimize property damage due to excess water.

9. Erosion and Sediment Control

a. Erosion and sediment control measures shall meet the standards for the General Permit Authorization to Discharge Stormwater Associated with Construction Activity Under the National Pollutant Discharge Elimination System/State Disposal System Permit Program, Permit MN R100001 (NPDES General Construction Permit), issued by the Minnesota Pollution Control Agency, except where more specific requirements are required.

b. Activity shall be phased to minimize disturbed areas subject to erosion at any one time.

c. All construction site waste—such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site—shall be properly managed and disposed of so they will not have an adverse impact on water quality.

d. If silt fence is installed it shall conform to sections 3886.1 and 3886.2, Standard Specifications for Construction, Minnesota Department of Transportation (2005 ed.), as it may be amended.

Appendix F
Implementation Plan

The following list was developed to identify and prioritize feasibility analyses and projects that would benefit Fridley's water quantity and quality for inclusion within the City's long term planning efforts, Capital Investment Program, and external grant applications. This list is not exclusive; additional projects, can be found in other reports including the Southwest Urban Lakes Study Phase 1 report, the Coon Creek, Watershed District WRAPs, and the Watershed Management Plans of the City's Watershed partners. This list is to be reviewed and updated annually in consultation with Watershed partners.

	Project Description	Action Number(s)	Potential Partners	Benefit (S=Safety, R=Regulatory, C=Cost-Effectiveness, L=Increased Level of Service)	Feasi-blity Study Needed	Proposed Cost By Year[$Thousands]*										
						2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	10-Year Total Cost Estimate
	Watershed Management and BMP Implementation					**829**	**1,366**	**915**	**1,866**	**634**	**1,031**	**1,060**	**1,291**	**764**	**951**	**10,707**
0	**BMPs** Construction water quality and quantity improvement projects during future reconstruction projects or a stand alone projects															
1	**CCWD TMDL Projects:** Construct water quality and quantity improvements during future reconstruction projects or complete stand alone projects to address Springbrook Creek Total Phosphorus and *E.coli* TMDLs	1.1.A; 1.3.B; 2.1.A	CCWD (technical assistance, financial assistance, educational assistance), DNR (financial assistance), Met Council (financial assistance), ACD (financial assistance, technical assistance, educational assistance), MPCA (financial assistance), other agencies (financial assistance)	R	X				200					100		**300**

2	**Springbrook Nature Center Channel Flood Reduction**: Construct a channel improvement to improve flood resistance of properties upstream (e.g. Springbrook Apartments).	1.1.A; 2.1.A	CCWD (technical assistance)	S, L	X	30										**30**
3	**Riverview Terrace Flood Protection:** Construct a hard surface trail on the west side of Riverview Terrace from 79th Way to Kimball Street a grade such that it could be used to support temporary augmented flood protection in extreme River flooding events	1.1.A; 2.1.A	CCWD (technical assistance); DNR (financial assistance); other partners (financial assistance for trail)	S, L			100									**100**
4	**Apex Pond Retrofit:** Expand pond capacity and improve water quality treatment and flood response	1.1.A; 2.1.A	CCWD (technical assistance; financial assistance)	S, R	X			40								**40**
5	**Springbrook Creek Conveyance Improvements:** improve flood resistance of properties in area between East River Road and BNSF railroad by reconstruction of culverts and channel improvements.	1.1.A; 2.1.A	CCWD (technical assistance; financial assistance, education and outreach)	S, L			20									**20**
6	**Springbrook Railroad Culvert Modifications:** If feasible, modify culvert under BNSF railroad to maintain capacity currently limited by sedimentation.	1.1.A; 2.1.A	CCWD (technical assistance; financial assistance); BNSF Railroad	S, L	Y			10								**10**
7	**Springbrook Nature Center Pond Sediment Removal:** remove accumulated sediment from main ponds at Springbrook Nature Center located upstream of Weir C	1.1.A; 2.1.A	CCWD (technical assistance; financial assistance, education and outreach); DNR	R, L								400				**400**
8	**Springbrook Nature Center 83rd Avenue Conveyance Improvements:** Improve/maintain 83rd Avenue Channel to Springbrook pond system.	1.1.A; 2.1.A	CCWD (technical assistance; financial assistance)	S, L	X							50				**50**

9	**Northtown Drainage Improvements:** Work in collaboration with the Cities of Blaine and Spring Lake Park to implement a stormwater management solution at Northtown Mall that will reduce peak flows and improve water quality incoming to Springbrook Nature Center	1.1.A; 2.1.A	CCWD (technical assistance; financial assistance, project management), City of Spring Lake Park, City of Blaine (financial assistance)	R, C, L	X						100			150		**250**
10	**Craig Park Drainage Improvements:** In conjunction with Fridley Recreation, estblish stormwater storage and control at Craigbrook Park	1.1.A; 2.1.A	CCWD (technical assistance; financial assistance, education and outreach)	R, C, L	X			50								**50**
11	**Stonybrook Creek Flood Improvements:** improve the conveyance of Stonybrook Creek and alleviate flooding in the vicinity of Beech Street and 78th Avenue Northeast	1.1.A; 2.1.A	CCWD (technical assistance; financial assistance); anoka County Highway Department (financial assistance)	S		150										**150**
12	**Stonybrook Creek Upstream Improvements:** work with City of Spring Lake Park and CCWD to reduce and control peak flows crossing University Ave	1.1.A; 2.1.A	CCWD (technical assistance; financial assistance); Spring Lake Park (financial assistance)	S, L	X			20								**20**
13	**Oak Glen Creek West Drainage Improvements:** rehabilitate drainage along the BNSF right of way between two properties located north of 73rd Avenue and improve drainage along Commerce Lane	1.1.A; 2.1.A	CCWD (technical assistance; financial assistance); local businesses (financial assistance, easements)	S, L		210	80	50								**340**
14	**Oak Glen Creek Commerce Lane Improvements:** reduce peak flows and improve water quality between Commerce Lane and University Avenue	1.1.A; 2.1.A	CCWD (technical assistance; financial assistance)	R, C, L	X				100							**100**

15	**73rd and University Avenue Drainage Improvements:** improve capacity along interceptors in the Oak Glen Creek sub-watershed at this location	1.1.A; 2.1.A	CCWD (technical assistance; financial assistance); RCWD (technical assistance; financial assistance)	S, C, L	X		600									**600**
16	**Madsen Park Stormwater Drainage Improvements:** stormwater storage at Madsen Park and along 73rd Avenue to reduce peak flow and improve water quality	1.1.A; 2.1.A	CCWD (technical assistance; financial assistance); RCWD (technical assistance; financial assistance)	R, C, L	X							200				**200**
17	**Target Distribution Drainage Improvements:** This project would analyze potential improvements and peak reduction of runoff from Target Distribution Center into the 73rd Avenue trunk system, and seek opportunities for water quality retrofits	1.1.A; 2.1.A	CCWD (technical assistance; financial assistance); RCWD (technical assistance; financial assistance)	R, L	X								100			**100**
18	**73rd Avenue and University Avenue Drainage Reroute:** This project would look at the potential to reduce flooding along the Oak Glen Creek drainage system by rerouting flow at University Avenue and 73rd Avenue directly south to Rice Creek	1.1.A; 2.1.A	CCWD (technical assistance; financial assistance); RCWD (technical assistance; financial assistance)	R, C, L	X					100	300					**400**
19	**2020 Road Reconstruction Project:** Improvements to stormwater drainage system within Riverview Heights Neighborhood	1.1.A; 1.3.C; 2.1.A; 2.1.B	CCWD (technical assistance; financial assistance)	R, C, L			60									**60**
20	**2021 Road Reconstruction Project:** Improvements to stormwater drainage system within Melody Manor Neighborhood	1.1.A; 1.3.C; 2.1.A; 2.1.B	CCWD (technical assistance; financial assistance)	R, C, L				65								**65**

21	**2023 Road Reconstruction Project:** Improvements to stormwater drainage system between Highway 65 and Central Avenue north of Rice Creek	1.1.A; 1.3.C; 2.1.A; 2.1.B	RCWD (technical assistance; financial assistance)	R, C, L						65						**65**
22	**2024 Road Reconstruction Project:** Improvements to stormwater drainage system within Hartman Circle and Logan Park neighborhoods	1.1.A; 1.3.C; 2.1.A	CCWD (technical assistance; financial assistance); RCWD (technical assistance; financial assistance)	R, C, L							65					**65**
23	**2025 Road Reconstruction Project:** Improvements to stormwater drainage system within Springbrook Neighborhood	1.1.A; 1.3.C; 2.1.A; 2.1.B	CCWD (technical assistance; financial assistance)	R, C, L								70				**70**
24	**2026 Road Reconstruction Project:** Improvements to stormwater drainage system within Melody Manor Neighborhood	1.1.A; 1.3.C; 2.1.A; 2.1.B	CCWD (technical assistance; financial assistance)	R, C, L									70			**70**
25	**2027 Road Reconstruction Project:** Improvements to stormwater drainage system within Brookview, Creek Ridge, and Oak Grove Neighborhoods	1.1.A; 1.3.C; 2.1.A; 2.1.B	CCWD (technical assistance; financial assistance)	R, C, L										70		**70**

26	**RCWD TMDL WQ Projects:** Construct water quality and quantity improvements during future reconstruction projects or complete stand alone projects to address Upper Mississippi TMDL for *E. Coli* and impairment of Rice Creek for Aquatic Life and Aquatic Recreation including, but not limited to, projects listed in the Southwest Urban Lakes Report Locke Lake Management Action Plan.	1.1.A; 1.3.C; 2.1.A; 2.1.B	RCWD (technical assistance, financial assistance, educational assistance), DNR (financial assistance), Met Council (financial assistance), ACD (financial assistance, technical assistance, educational assistance), MPCA (financial assistance), other agencies (financial assistance)	R, C, L	X							100				**100**
27	**Moore Lake WQ Projects:** Construct water quality and quantity improvements during future reconstruction projects or complete stand alone projects to address Southwest Urban Lakes TMDL for nutrients and impairment for Aquatic Life including, but not limited to, projects listed in the *Southwest Urban Lakes Report Moore Lake Management Action Plan*	1.1.A; 2.1.A	RCWD (technical assistance, financial assistance, educational assistance), DNR (financial assistance), Met Council (financial assistance), ACD (financial assistance, technical assistance, educational assistance), MPCA (financial assistance), other agencies (financial assistance)	R, C, L	X		250								250	**500**

28	**Locke Lake WQ Projects:** Construct water quality and quantity improvements during future reconstruction projects or complete stand alone projects to addressSouthwest Urban Lakes TMDL for phosphorus and impairment for Aquatic Recreation and Aquatic Life including, but not limited to, projects listed in the *Southwest Urban Lakes Report Pike Lake Management Action Plan*	1.1.A; 2.1.A	RCWD (technical assistance, financial assistance, educational assistance), DNR (financial assistance), Met Council (financial assistance), ACD (financial assistance, technical assistance, educational assistance), MPCA (financial assistance), other agencies (financial assistance)	R, C, L	X								200			**200**
29	**Locke Lake dredging:** This project would remove sediment from Locke Lake, an impoundment along Rice Creek. The project would include a preliminary bathymetric survey to determine proper timing for sediment removal	1.1.A; 1.1.B; 2.1.A	RCWD (technical assistance, financial assistance); DNR (permitting)	C, L			100									**100**
30	**Locke Lake dam upgrade:** Update dam to allow for automated monitoring and control, general repairs	2.1.A	RCWD (technical assistance, financial assistance); DNR (permitting)	S, L			35								200	**235**

31	**Mississippi Stormwater Pumping Station Rehabilitation Project:** Rehabilitate and reconstruct the City's stormwater pumping station located near the underpass at Mississippi Street and the BNSF railroad. Potential for stormwater reuse and water quality improvements would be evaluated and included if feasible as a part of this project	1.1.A; 2.1.A	RCWD (technical assistance, financial assistance);BNSF Railroad (technical assistance, financial assistance); Anoka County (technical assistance, financial assistance)	S, C		100						500			**600**
32	**Village Green Flood Control Improvement Project:**Address flooding issues around Village Green	1.1.A; 2.1.A	RCWD, MWMO (technical assistance, financial assistance); Private Property Owners (financial assitance)	S, C, L	X			150								**150**
33	**Community Park Pond Improvement Project:** Increase the capacity and performance of the Community Park drainage system in conjunction with other entities.	1.1.A; 2.1.A	RCWD (technical assistance, financial assistance); BNSF (financial assistance); Anoka County (financial assistance)	S, R, C, L										150	250	**400**
34	**Lucia Lane Drainage Improvements:** Reduce flooding and improve water quality in the vicinity of Lucia Lane between Mississippi Street and 68th Avenue. This would address relatively infrequent flooding conditions on Lucia Lane	1.1.A; 2.1.A	RCWD (technical assistance, financial assistance); Private Property Owners	R, L	X						100					**100**

35	**Norton Creek Improvements:** Reduce peak flows, improve water quality a, and reduce erosion along Norton creek north of the Minnesota commercial railroad crossing and at 73rd between Highway 65 and Central; reduce flows from east and north entering the conveyance system	1.1.A; 2.1.A	RCWD (technical assistance, financial assistance, project management); Railroad; Private Property Owners	S, R, C, L	X				900							**900**
36	**69th Avenue Water Quality Improvements:** Reduce pavement and provide water quality improvements along 69th Avenue from Central Avenue to the eastern city limits	1.1.A; 2.1.A	RCWD (technical assistance, financial assistance, education and outreach)	R, L		120										**120**
37	**Shamrock Lane Stormwater Pond Optimization:** Evaluate storage of the Shamrock Lane pond in attempt to optimize both area of treatment and efficiency	1.1.A; 2.1.A	RCWD (technical assistance, financial assistance, education and outreach)	R, L	X									50		**50**
38	**BNSF Drainage Improvements near 61st Avenue:** Provide storage and mitigate flows from BNSF property onto streets (Alden Way) and private property (Sylvan Hills) north of 61st Avenue	1.1.A; 2.1.A	MWMO (technical assistance; financial assistance); BNSF Railroad	S, L										50		**50**
39	**Sylvan Park Stormwater Drainage Improvements:** Evaluate opportunity for stormwater storage and treatment at Sylvan Park at Rainbow Drive and Jupiter Road	1.1.A; 2.1.A	MWMO (technical assistance, financial assistance, education and outreach)	S, R, L	X						20					**20**

40	**West Moore Lake Emergency Pumping System Upgrade:** Install a sump connected to West Moore Lake to facilitate emergency pumping of the lake when extreme lake levels are observed. The lake is currently dependent on a single outlet, and has limited storage that was exceeded in 2011	1.1.A; 2.1.A	RCWD (technical assistance, financial assistance, education and outreach)	S, L		50										**50**
41	**West Moore Lake Neighborhood Sump Pump Connections:** Sump pumps would be connected to a proposed storm sewer interceptor in the vicinity of West Moore Lake Drive and Marigold Terrace, which would limit pavement damage and icing conditions on the road	1.1.A; 2.1.A	RCWD (technical assistance, financial assistance, education and outreach)	C, L				20								**20**
42	**West Moore Lake Outlet Control Improvements:** Retrofit the outlet for Moore Lake to move the control point closer to the lake through construction of a weir or other control system. This would reduce MnDOT and City maintenance in the ditch between the lake and West Moore Lake Drive	1.1.A; 2.1.A	RCWD (technical assistance, financial assistance, education and outreach)	S, L				40								**40**
43	**West Moore Lake Outlet Water Quality Improvements:** Install a BMP east of the church parking lot and west of the existing MnDOT to ditch to infiltration or other water quality improvements from runoff from the St. Phillips Church	1.1.A; 2.1.A	RCWD (technical assistance, financial assistance, education and outreach); St. Phillips Church (financial assistance; easements, education and outreach)	R, C, L	X			10								**10**

44	**Moore Lake Park Water Quality Improvements:** Install BMPs identified in the Moore Lake Park Master Plan, including reducing pervious surface and treatment of reconfigured main parking lot runoff, reestablishing a wetland that accepts discharge from the north parking lot, installation of native vegetation buffer, and treatment of the inlet channel flow into the lake at the south end of the main parking lot	1.1.A; 2.1.A	RCWD (technical assistance, financial assistance, education and outreach)	C, L	X				190							**190**
45	**Mississippi Street Water Quality Improvements:** Install a detention or retention system on private property south of Mississippi Street and approximately 600' east of Central Avenue. A preliminary analysis has been performed	1.1.A; 2.1.A	RCWD (technical assistance, financial assistance, education and outreach); Private Property Owners	R, L	X					300						**300**
46	**Rice Creek Road Wetland Restoration:** Restore a historic wetland north of Rice Creek Road and east of Central Avenue	1.1.A; 2.1.A	RCWD (technical assistance, financial assistance, education and outreach); private property owners	R, L	X			100								**100**
47	**Harris Pond Optimization:** Analyze improvements to Harris Pond, a constructed impoundment, to optimize its effectiveness and improve the quality of the water discharging from the Pond	1.1.A; 2.1.A	RCWD (technical assistance, financial assistance, education and outreach); Private Property Owners	R, L	X					130						**130**

48	**BASFU Retrofit:** Retrofit the Biologically Activated Stormwater Filtration Unit that was designed and installed near Pierce Drive south of Lynde Avenue in the 1980s. The project may include upgrading the existing stormwater pond adjacent to the BASFU as well. A preliminary analysis is complete and under evaluation	1.1.A; 2.1.A	RCWD (technical assistance, financial assistance, education and outreach)	R, L	X			200								**200**
49	**Danube Pond Sediment Removal:** Replenish storage in a series of stormwater wetlands in the vicinity of the Danube Roads. An initial project was completed in 2015, a second project is being permitted	1.1.A; 2.1.A	RCWD (technical assistance)	R, L			20									**20**
50	**2018 Road Reconstruction Project:** Improvements to stormwater drainage system along 69th Avenue and near the new Civic Campus	1.1.A; 2.1.A	RCWD (technical assistance, financial assistance, education and outreach)	R, C, L		60										**60**
51	**2022 Road Reconstruction Project:** Improvements to stormwater drainage system within Black Forest, Sound Innsbruck and Marian Hills neighborhoods	1.1.A; 2.1.A	RCWD (technical assistance, financial assistance, education and outreach); MWMO (technical assistance, financial assistance, education and outreach);	R, C, L					65							**65**
52	**2028 Road Reconstruction Project:** Improvements to stormwater drainage system within Brookview Creekridge, and Oak Grove neighborhoods	1.1.A; 2.1.A	RCWD (technical assistance, financial assistance, education and outreach)	R, C, L										75	**75**	

53	**2019 West Moore Lake Trail Project:** Improvements to stormwater drainage system along West Moore Lake trail system	1.1.A; 2.1.A	RCWD (technical assistance, financial assistance, education and outreach); MWMO (technical assistance, financial assistance, education and outreach);	C, L		50										**50**
54	**MWMO TMDL WQ Projects:** Construct water quality and quantity improvements during future reconstruction projects or complete stand alone projects to address Upper Mississippi TMDL for *E. Coli,* Statewide TMDL for mercury, and Mississippi River impairments for Aquatic Consumption, Aquatic Life, and Aquatic Recreation	1.1.A; 1.3.B; 2.1.A	MWMO (technical assistance, financial assistance, educational assistance)	R, C, L	X				100		100					**200**
55	**53rd Avenue Stormwater Improvements:** This project would be installed in conjunction with a roadway reconstruction project on 53rd Avenue and would look for opportunities to treat runoff from public and private sources. Property acquisition would be required for the candidate site	1.1.A; 2.1.A	MWMO (technical assistance, financial assistance, educational assistance), City of Columbia Heights (?); Private Property Owners (easements)	S, L	X				260							**260**

56	**Main Street Industrial Property Stormwater Improvements:** Provide stormwater improvements for runoff from several industrial properties along Main Street near 53rd Avenue. The stormwater runs to the railroad right-of-way untreated via an ad-hoc impoundment that has adverse property effects. A meeting was held with the property owners and the MWMO previously, but the owners have declined proceeding with project analysis at that time	1.1.A; 2.1.A	MWMO (technical assistance, financial assistance, educational assistance); Private Property Owners (easements)	C, L	X		10										**10**
57	**University Avenue Drainage Improvements:** Work in collaboration with the City of Columbia Heights and MnDOT to implement a stormwater management solution at University Avenue that will reduce peak flows and improve water quality of University Avenue near 49th Avenue identified in modeling by MWMO	1.1.A; 2.1.A	MWMO (technical assistance, financial assistance, educational assistance); City of Columbia Heights (financial assistance); MnDOT	R, C, L	X							200				**200**
58	**BNSF Stormwater Improvements**. Evaluate stormwater flooding and water quality improvements with the BNSF railroad, and provide a plan and means for implementation of improvements selected	1.1.A; 2.1.A	MWMO (technical assistance, financial assistance, educational assistance); BNSF (financial assistance?)	L	X									100		**100**
59	**NorthStar Transit Overlay District Regional Treatment:** Work in collaboration with developers implement a stormwater management solution at the NorthStar rail area that will reduce peak flows and improve water quality to receiving waters	1.1.A; 2.1.A	MWMO (technical assistance, financial assistance, educational assistance); Private Property Owners (financial assistance, easements)	R, L	X		20									**20**

60	**Regional Treatment:** The City will evaluate opportunities to install regional treatment systems and stormwater best management practices in public spaces and right-of-ways in areas in areas identified in H&H modeling and sub-watrshed assessments as suitable for providing regional treatment, dependent on availability of land and financial feasibility.	1.3.B	Watershed Districts (technical assistance, financial assistance, educational assistance); Private Property Owners (financial assistance, easements)	R, C, L	X			50								**50**
61	**Erosion Control/Bank Stabilization**: Partner with Watershed Districts to repair erosion along waterbodies.	1.1.A 3.2.B	Watershed Districts (technical assistance, financial assistance)	S, R, C, L					20				80			**100**
62	**Sediment Removal Projects:** Remove sediment to maximize performance of stormwater storage elements	1.4.B		R, C, L							300		300			**600**
63	**Residential Rain Garden Program:** Continue residential raingarden program to incentivize raingardens and other stormwater BMPs on private property	1.1.A; 1.3.E; 1.3.F	Watershed Districts (educational assitance; technical assitance, financial assitance); ACD (technical assistance)	R, L		20	20	20	25	25	25	25	30	30	30	**250**
64	**Blue Parks Program:** Analyze City and County parks for suitable areas for no-mow grass or native perennial plantings and install natively vegetated buffers along waterbodies in City-owned parks	3.1.B	Watershed Districts (educational assitance; technical assitance, financial assitance); ACD (technical assistance)	R, L	X		30	30						30	30	**120**

65	**Invasive Species Management:** Partner with appropriate agencies to remove invasive species that may negatively impact water quality.	3.1.C	Watershed Districts (educational assitance; technical assitance, financial assitance); ACD (technical assistance); MDA (technical assitance, financial assitance); DNR (technical assitance, financial assitance)	R, L			10	10						10	10	**40**
66	**Smart Stormwater Innovations:** Evaluate the installation of "Smart" stormwater infrastructure to better predict and respond to flooding during severe weather event	Future 3.2	Watershed Districts (technical assistance, financial assistance, educational assistance)	R, C, L	X			20							100	**120**
67	**Stormwater Reuse:** Evalue opportunities and install BMPS that allow for stormwater reuse	4.2.B	Watershed Districts (technical assistance, financial assistance)	R, C, L												

Data Collection and Analysis

67	**Monitoring Support:** Support watershed partners in establishment of baseline monitoring stations and data collection.	1.5.A	Watershed Districts (technical assistance, financial assistance)	R, L		5	5	5	5	5	5	5	5	5	5	**50**
68	**Monitoring:** Partner with Watershed Districts to monitor erosion along Mississippi River.		Watershed Districts (technical assistance, financial assistance)	R, L		2		2		2		2		2		**10**
69	**Monitoring:** Partner with watershed districts and other appropriate agencies to monitor for Chemicals of Emerging Concern	Future 2.1	Watershed Districts (technical assistance, financial assistance)	R, L				3				3				**6**

70	**Project Specific Monitoring:** Provide project specific monitoring	1.5.A	Watershed Districts (technical assistance, financial assistance)	R, L		1	1	1	1	1	1	1	1	1	1	**10**
71	**Modeling Support:** Provide equipment and personnel to assist in improving the accuracy of stormwater models	2.1.C	Watershed Districts (technical assistance, financial assistance)	R, L				3				3				**6**
72	**Floodplain Modeling:** Partner with watershed organizations to perform comprehensive H& H modeling of the City and its floodplains and drainage areas.	2.1.C	Watershed Districts (technical assistance, financial assistance)	R, L		30	5	15		5	15		5	15		**90**
73	**Adjust Design Standards:** The City will adjust design standards based on evolving climate data and best practices.	6.1.A; Future 3.1	Watershed Districts (technical assistance)	R, C, L		1		1		1		1		1		**5**

Housekeeping

74	**Inventory:** Maintain inventory of stormwater infrastructure and maintenance via GIS database, stormsewer map, and SWAMP program	1.1.B; 1.4.A; Future 2.2		S, R, C, L		2	2	2	2	2	2	2	2	2	2	**20**
75	**BMP Maintenance:** Annual maintenance and repairs to existing storm sewer system	1.1.B; 1.4.A; 1.4.B		R, C, L		25	25	25	25	25	25	25	25	25	25	**250**
76	**Salt Usage**: The City will maintain Smart Salting Level 2 certification from the MPCA	1.1.B; 1.2.A; Future 1.1	MPCA	R		2		2		2		2		2		**10**
77	**Salt Usage**:All snow plow drivers will receive Smart Salting Level 1 certification from the MPCA	1.2.B; Future 1.1	MPCA	R			2		2		2		2		2	**10**

78	**Salt Usage:** The City will monitor salt use and adjust equipment and operations to decrease chloride application while maintaining safe winter driving conditions.	1.2.C; Future 1.1	MPCA; Watershed Districts (financial assistance, educational assistance)	R		120		20		20		20		20		**200**
79	**Training:** Provide staff annual training on illicit discharge inspection; provide all new relevant staff training on salt application and fertilizer use	1.1.B; 1.2.A; 1.2.B	Watershed Districts (technical assistance)	R, C, L		4	4	4	4	4	4	4	4	4	4	**40**
80	**Street Sweeping**: Sweep streets twice annually, clear inlets as needed	1.1.B		R, C, L		280	50	50	50	50	240	50	50	50	50	**920**
81	**Inspections** 20% of stormwater ponds and MS4 outfalls each year; annually inspect all pollution control devices and exposed stock piles	1.1.B		R, C, L		4	4	4	4	4	4	4	4	4	4	**40**
82	**Illicit Discharge:** Maintain and submit annual inspection reports, maintenance records, and other documentation in conformance with NPDES permit	1.1.B	Watershed Districts (technical assitance)	R, C, L		6	6	6	6	6	6	6	6	6	6	**60**
83	**Enforcement:** Develop and coordinate enforcement procedures in coordination with watershed districts to ensure that privately held maintenance agreements are followed	1.4.C	Watershed Districts (technical assitance)	R, C, L		5	5	5	5	5	5	5	5	5	5	**50**

Education and Outreach

84	**Education**: Continue water resource and stormwater education program	1.1.D; 1.3.E; 5.1.A	Watershed Districts (educational assitance)	R, C, L		5	5	5	5	5	5	5	5	5	5	**50**
85	**Targeted Education:** Encourage property owners along shoreland properties to plant natively vegetated buffers through targeted education	3.1.A	Watershed Districts (educational assitance; technical assitance, financial assitance); ACD (technical assistance)	R, C, L		2		2		2		2		2		**10**

86	**Salt Usage:** The City will work with its partners to educate residents and businesses on proper salt application.	1.2.D	Watershed Districts (educational assitance); ACD (educational assistance)	R, C, L		2		2		2		2		2		**10**

Programmatic Response

87	**Stormwater Utility Fee:** Evaluate the stormwater utility fee annually to ensure ability to maintain stormwater management infrastructure ; Evaluate feasibility of incentivizing installation of stormwater BMPs through utility fees	1.3.E	MWMO (technical assitance), Watershed Districts (educational assitance; financial assistance)	C, L			20									**20**
88	**Water Conservation**: Allow for internal building water re-use as permitted in the building code.	4.2.B	Watershed Districts (educational assitance; technical assitance); Met Council (technical assitance)	L				5								**5**
89	**Water Conservation**: Provide rebates or incentives for installing water efficient appliances, smart irrigation, and stormwater reuse when feasible	4.2.C	Met Council (technical assitance)	L		10				10				10		**30**
90	**Wellhead Protection:** Partner with Anoka County to continue well sealing program	4.1.C	Anoka County (technical assistance, financial assistance)	S, R, L		4	4	4	4	4	4	4	4	4	4	**40**
91	**WHP Group:** Participate in the Anoka County Municipal Wellhead Protection Group and coordinate with neighboring communities included within Fridley's DWSMA regarding wellhead protection.	4.1.D	Anoka County (program management)	S, R, L		2	2	2	2	2	2	2	2	2	2	**20**

92	**Regulation:** Require pre- and post- construction stormwater controls as part of land alteration permits.	1.1.C	Watershed Districts (educational assitance	R, L		2				2				2		**6**
93	**Regulation:** Update Chapter 208 of City Code to include MWMO Standards, include MIDS, reference the Minnesota Stormwater Manual by reference, and integrate the Minnesota Department of Health's guidelines for stormwater management in Drinking Water Surface Management Areas	1.1.C; 4.1.A; 4.1.B	MWMO	R, L		10				4				4		**18**
94	**Regulation:** Continue to rely on CCWD and RCWD to implement their regulatory standard within their jurisdictions, with coordinated additions from City Chapter 208.	1.1.C	CCWD; RCWD	R, L		2										**2**
95	**Regulation:** Review codes related to water planning every three years to determine adequacy	6.1.C	Watershed Districts (technical assitance)	R		4			4			4			4	**16**
96	**Regulation:** Update the Critical Area overlay ordinance for consistency with updated MRCCA rules and to promote establishment of native vegetation	3.1.D	DNR (technical assitance)	R			4			4			4			**12**
97	**Regulation:** Update the City Code to promote water-efficient landscaping	4.1.C	Watershed Districts (technical assitance)	L			2				2				2	**6**
98	**Emergency Action:** The City will update and enact the City of Fridley's Emergency Operations Plan to address impacts from climate change and extreme weather events.	6.1.B	DNR (technical assitance)	S, R, L			4			4			4			**12**

99	**Floodplain Management:** The City will update and enact the City of Fridley's Floodplain Ordinance to address impacts from climate change and extreme weather events.	6.1.B	DNR (technical assitance); Watershed Districts (technical assitance)	S, R, L			2			2			2			**6**

* Cost estimates are preliminary and subect to review and revision as more information becomes available.