Local Surface Water Management Plan

City of Loretto, Minnesota

Final

April 5, 2017

This updated Local Surface Water Management Plan is prepared to meet the requirements of the Pioneer-Sarah Creek Watershed Management Commission following the adoption of its Third Generation Watershed Management Plan. The Commission adopted the Plan on May 21, 2015. The City of Loretto has two years from that date (until May 21, 2017) to update its local plan to conform to the Commission's Plan.

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A Soil Resource Report
B Pioneer-Sarah Creek Watershed Management Commission Joint Powers Agreement and Council Resolution
C NPDES Permit for Wastewater Treatment Plant
D Operations & Maintenance Agreement with Loretto Community Athletic Association
E MS4 Permit Application and SWPPP
F Community Options for Water Infrastructure Financing

Acronyms

BWSR	Board of Water and Soil Resources
DWSMA	Drinking Water Supply Management Area
LCAA	Loretto Community Athletic Association
LSWMP	Local Surface Water Management Plan
MBS	Minnesota Biological Survey
MDH	Minnesota Department of Health
MNDNR	Minnesota Department of Natural Resources
MNDOT	Minnesota Department of Transportation
MPCA	Minnesota Pollution Control Agency
MS4	Municipal Separate Storm Sewer System
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory
PSC WMC	Pioneer-Sarah Creek Watershed Management Commission
TMDL	Total Maximum Daily Load
USDA	United States Department of Agriculture
WMC	(Pioneer-Sarah Creek) Watershed Management Commission
WMP	Watershed Management Plan (Third Generation Watershed Management Plan of the Pioneer-Sarah Creek Watershed Management Commission)
WRAPS	Watershed Restoration and Protection Strategy
WWTP	Waste Water Treatment Plant

1.0 Executive Summary

This updated Local Surface Water Management Plan for the City of Loretto is submitted to conform with the Third Generation Watershed Management Plan (the Plan) for the Pioneer-Sarah Creek Watershed Management Commission, adopted on May 21, 2015 (PSC WMC, 2015).

Throughout this document, the Local Surface Water Management Plan may be referred to as the Local Plan or the LSWMP. Pioneer-Sarah Creek Watershed Management Commission may be referred to as the PSC WMC, the Watershed, or the Commission. The City of Loretto may be referred to as the City or as Loretto.

The following table lists the minimum required components and their location in this Local Plan.

Content Requirement	Location in Plan
Executive summary	Chapter 1.
Water resource management-related agreements	Chapter 2.
Physical environment and land use, including a definition of drainage areas and the volumes, rates, and paths of storm water runoff.	Chapter 3.
Existing or potential water resource-related problems, along with nonstructural, programmatic, and/or structural solutions.	Chapter 4.
Implementation program, including: 1) Areas and elevations for storm water storage adequate to meet performance standards or official controls established in the WMP. 2) Water quality protection methods adequate to meet performance standards or official controls in the WMP, and regulated areas. 3) A table that briefly describes the components of the implementation program and a schedule, estimated cost, and funding source(s). 4) A table for a Capital Improvement Program that sets forth, by year, the details of each contemplated capital improvement, including a schedule, estimated cost, and funding source(s).	1) Chapter 3: section 3.2.3. 2) Chapter 4. 3) Chapter 4: Table 4-2. 4) Chapter 4: Table 4-2.

Specific requests in the WMP, not covered elsewhere: 1) An explanation of how rare species and native communities will be managed and protected. 2) An explanation of how the goals, policies, rules, and standards in the WMP will be implemented, with a specific explanation of how a manure management ordinance will be implemented and enforced. 3) Actions the City will take to achieve load reductions identified in TMDL Implementation Plans and WRAPS documents. This should include identification of known upcoming projects that may provide opportunities to include load and volume reduction BMPs.	1) Chapter 4: section 4.3 2) Chapter 4: Section 4.4 3) Chapter 4: Section 4.5

The City of Loretto submits this plan for review by the Metropolitan Council and the WMC for their comments and approval by May 21, 2017. The City acknowledges that after the Local Plan is approved by the WMC, the City must "adopt and implement its plan within 120 days and shall amend its official controls accordingly within 180 days." (Minn. Stat. 103B.235.) The approved Plan will also be included as a chapter in the City's local comprehensive plan.

A map of the City within the Pioneer-Sarah Creek watershed is shown in Figure 1-1.

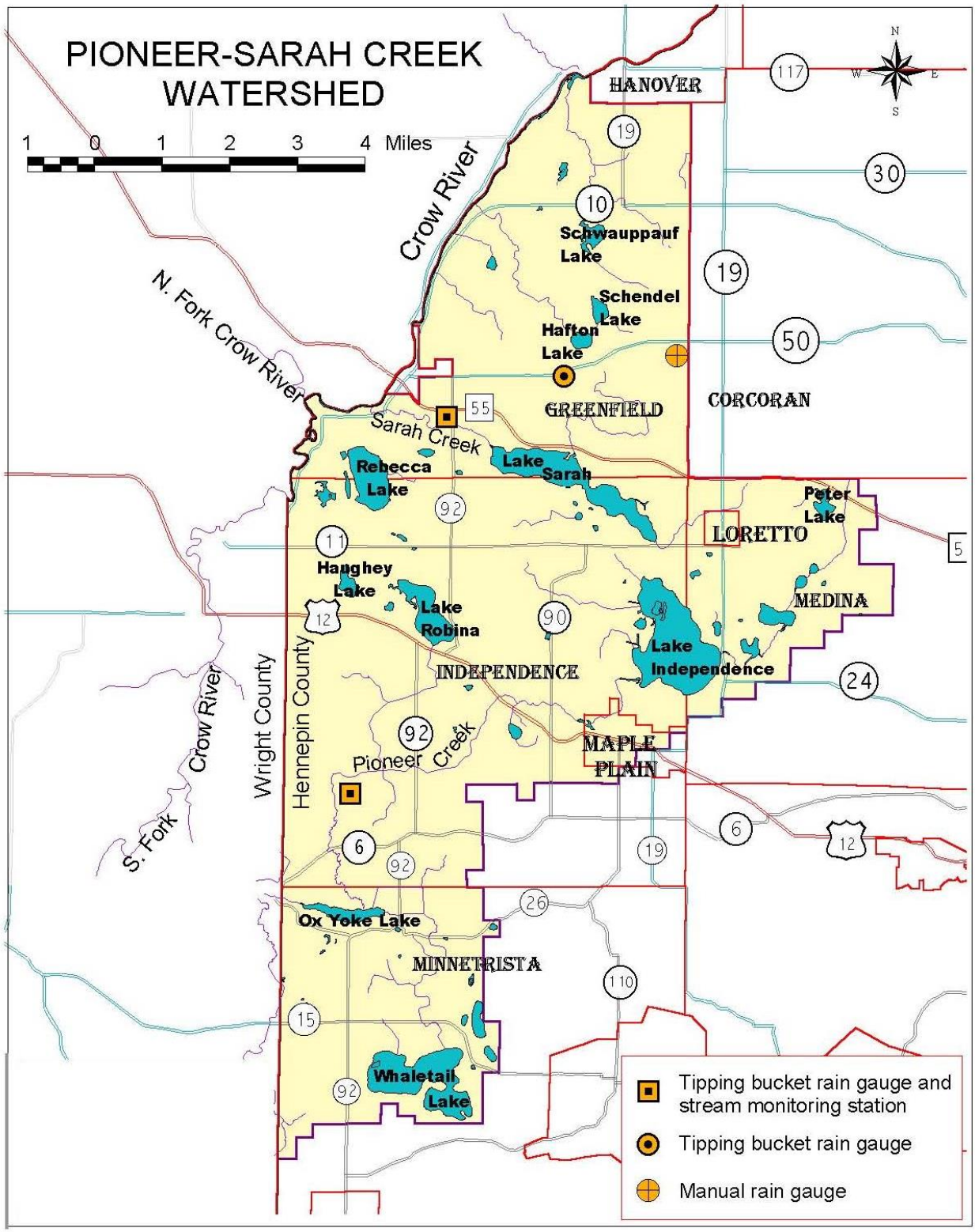

Figure 1-1. Pioneer-Sarah Creek Watershed.
Source: Pioneer-Sarah Creek Watershed Management Commission.

2.0 Water Resource Management-Related Agreements

2.1 PIONEER-SARAH CREEK WMC JOINT POWERS AGREEMENT

Loretto is a member of the Pioneer-Sarah Creek Watershed Management Commission. As stated on its website (www.pioneersarahcreek.org), the WMC is a joint powers organization whose six member cities – Greenfield, Independence, Maple Plain, Medina, and Minnetrista, in addition to Loretto – together manage the watershed's water resources through the WMC.

According to the Joint Powers Agreement between Loretto and the WMC, member cities agree to 1) provide a forum for exchanging information about land use management, techniques, and control; 2) provide a forum to resolve intergovernmental disputes related to managing and protecting the watershed; and 3) cooperate as a united group with all other levels of government to facilitate natural resource protection and management in the watershed. The Joint Powers Agreement is in Appendix B.

The WMC is also the Local Government Unit (LGU) responsible for administering the Minnesota Wetland Conservation Act in Loretto. The 1993 Council Resolution designating the WMC as the LGU is in Appendix B.

2.2 LORETTO COMMUNITY ATHLETIC ASSOCIATION

The Loretto Community Athletic Association (LCAA) and the City of Loretto entered into an Operations and Maintenance Agreement for the Arnold Klaers Baseball Field on April 1, 2014, extending through March 31, 2029. The agreement assigns certain maintenance responsibilities to the LCAA, such as "mowing and maintaining the fields in good condition for playing baseball, mowing the area around the concession buildings and the hill along C.R. 19, [and] cleaning the restrooms, storage and concession areas."

The Arnold Klaers Baseball Field is in northwest Loretto, an area prone to flooding. Timely clean-up and maintenance of this area is proposed as one solution to preventing litter or other pollutants from entering Loretto Creek and eventually Lake Sarah. See section 4.2.4.

The full agreement with the LCAA is in Appendix D.

2.3 LORETTO WASTEWATER TREATMENT PLANT

The Loretto Wastewater Treatment Plant (WWTP) operates under a permit from the Minnesota Pollution Control Agency (MPCA). The latest permit is in Appendix C. Loretto has applied for permit renewal and is awaiting MPCA approval. The MPCA's Application Complete Enough for Processing Notification is in Appendix C.

Closure of the WWTP is expected in 2020. More details about the project are given in Chapter 4.

3.0 Land and Water Resource Inventory

3.1 OVERVIEW

This land and water resource inventory updates the City's physical environment, including land use (section 3.2); biological environment (section 3.3); and water resources (section 3.4). It incorporates by reference much of the information provided in the WMP's Inventory and Condition Assessment, expanding on that information where possible to provide information specific to Loretto.

3.2 PHYSICAL ENVIRONMENT

3.2.1 Climate

Loretto has a continental climate characterized by cold winters and warm summers. The discussion of climate in the WMP's Inventory and Condition Assessment is incorporated here by reference.

3.2.2 Geology

Like much of Minnesota, Loretto's geologic history is extensively influenced by glacial activity. The most recent glacial period in Minnesota ended approximately 10,000 years ago, when the Laurentide Ice Sheet retreated northward. The advance and eventual retreat of the ice sheet scraped up and deposited rocks, sand, clay and other debris, known as glacial till, over the landscape.

According to the 2009 Local Surface Water Management Plan (City of Loretto, 2009), well logs show that Loretto lies over approximately 190 feet of glacial till. The till is deposited over the St. Lawrence and Franconia Formations of sandstone, siltstone, and shale (Olsen and Bloomgren, 1989).

Additional information regarding the watershed's geology and geomorphology are presented in the Inventory and Condition Assessment in the WMP, incorporated here by reference.

3.2.3 Topography and Drainage

Deposits of glacial till create a gently to moderately hilly topography in Loretto (Figure 3-1). The lowest elevation of about 990 feet is found along the railroad tracks and near the ballfields in the northwest part of the City. Elevation generally increases to the south and east; the highest elevation of about 1,060 feet is found on the east side of the City.

Surface water in Loretto drains west into Lake Sarah or south into Lake Independence. The dashed line in Figure 3-1 shows the approximate boundary between the Lake Sarah and Lake Independence subwatersheds. Figure 3-2 shows the City's existing storm water drainage system.

Volumes and rates of stormwater runoff depend on the intensity of rainfall or snowmelt. Precipitation normals for the Twin Cities metropolitan area and for Rockford, Minnesota, are tabulated in the WMP's Inventory and Condition Assessment for the years 1981-2010. A report of historical climatology from the Great Lakes Integrated Sciences + Assessments

Center (GLISA, undated) complements that data with summaries of observed changes from 1951-2012.

According to the GLISA report, total precipitation in the Twin Cities metropolitan area has increased by 5.5 inches, and the number of "very heavy" events has risen by almost 60% when precipitation totals are compared for the periods 1951-1980 and 1981-2010.

The GLISA report also predicts that total precipitation "will increase overall" in the future, although summer precipitation may remain stable or decline. Heavy precipitation events will likely be "more intense and more frequent."

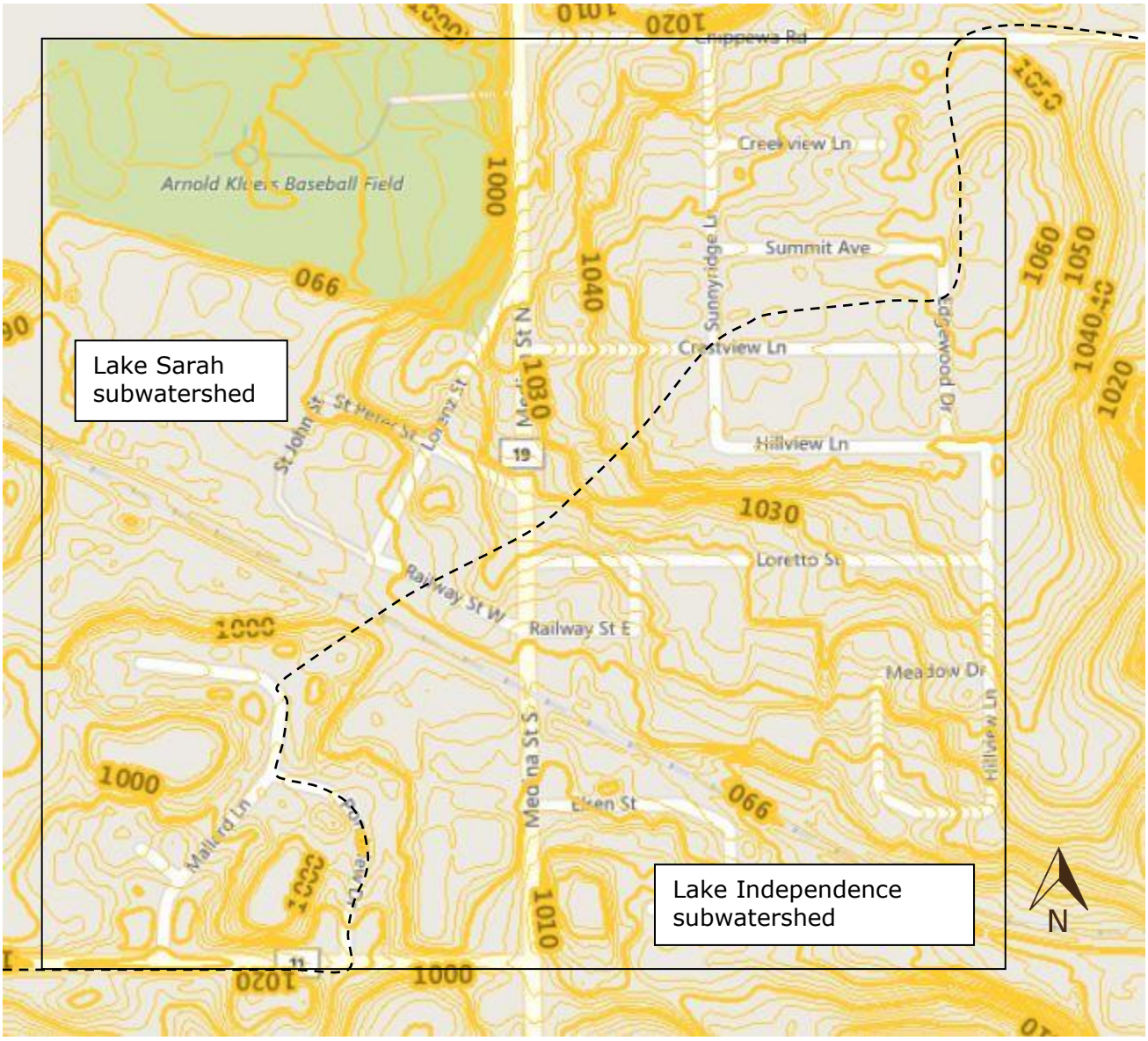

Figure 3-1. Topography and drainage.
Sources: Topography from Hennepin County Natural Resources Interactive Map 2016. Subwatershed boundary (dashed line) from the Third Generation Watershed Management Plan, Figure 2.1 (PSC WMC, 2015).

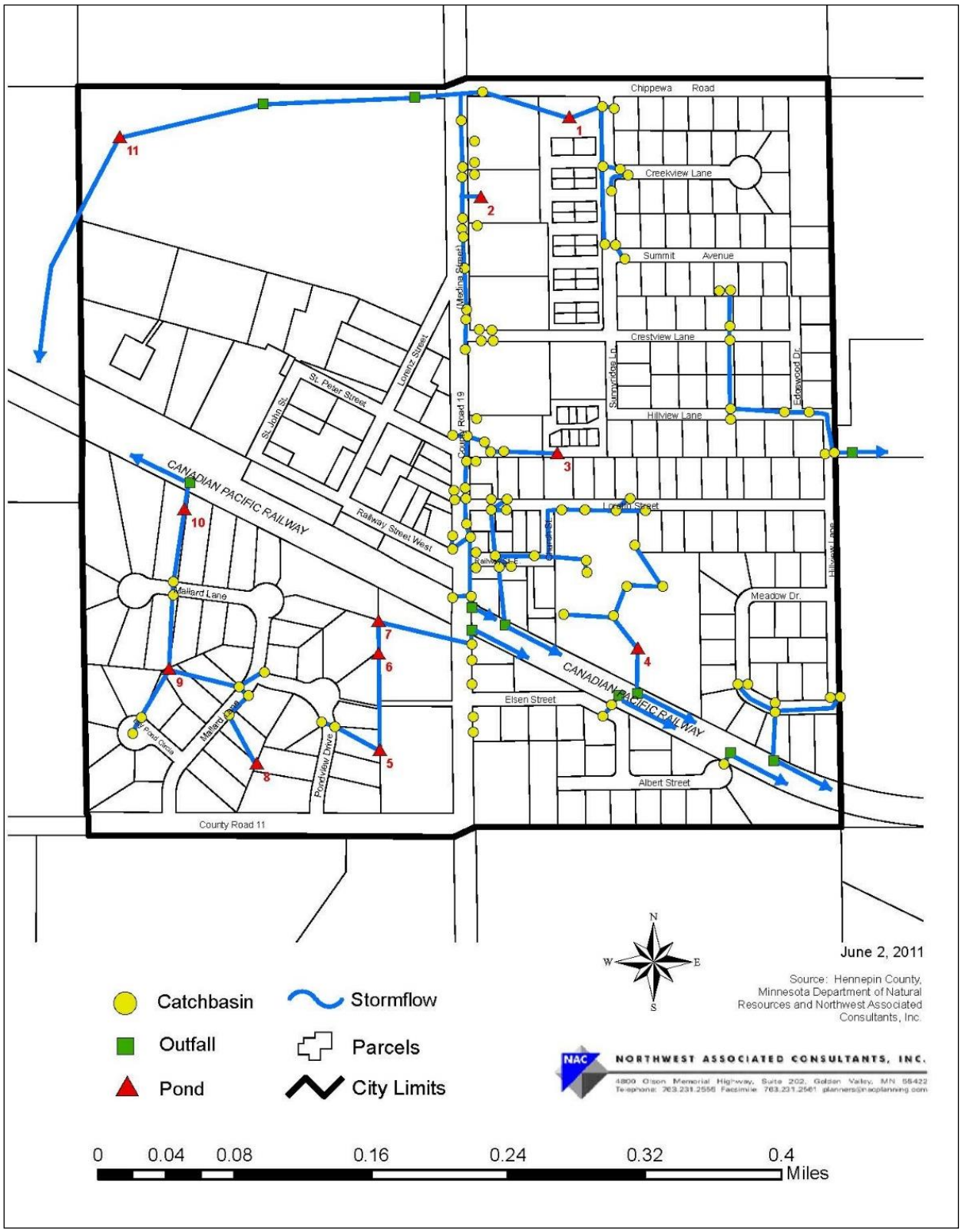

Figure 3-2. Existing surface water drainage system.

3.2.4 Soils

Information regarding soils is based on a custom soil resource report for Loretto downloaded from the Web Soil Survey, a digital data set and report generator available from the United States Department of Agriculture, Natural Resources Conservation Service (USDA NRCS, 2016). The soil resource report is in Appendix A.

According to the report, the Lester-Kilkenny soil complex dominates in Loretto, covering almost half the area of the City (L41 series in Figure 3-3). This loam and clay loam complex can be characterized as generally well-drained with a moderate to high capacity to transmit water through its most limiting layer.

In terms of area they cover, other significant soils in Loretto include the Hamel-Glencoe complex and the Udorthents (L132A and U2, respectively, in Figure 3-3). The Hamel-Glencoe soils are poorly drained loams and clay loams, whereas the Udorthents are well-drained soils of variable texture. A legend for all soil types in Loretto is presented in Table 3-1.

Figure 3-3. Soils map.
Source: USCA NRCS (2016).

Table 3-1. Soils map legend.

Map unit symbol	Map unit name	Acres in Loretto	Percent of acres in Loretto
L23A	Cordova loam, 0 to 2 percent slopes	6.2	3.5
L26B	Shorewood silty clay loam, 3 to 6 percent slopes	0.5	0.3
L35A	Lerdal loam, 1 to 3 percent slopes	2.0	1.1
L36A	Hamel, overwash-Hamel complex, 0 to 3 percent slopes	3.3	1.8
L40B	Angus-Kilkenny complex, 2 to 6 percent slopes	23.6	13.2
L41C2	Lester-Kilkenny complex, 6 to 12 percent slopes, eroded	63.9	35.6
L41D2	Lester-Kilkenny complex, 12 to 18 percent sloeps, eroded	18.7	10.4
L41E	Lester-Kilkenny complex, 18 to 25 percent slopes	4.0	2.2
L41F	Lester-Kilkenny complex, 25 to 35 percent slopes	0.2	0.1
L49A	Klossner soils, depressional, 0 to 1 percent slopes	10.6	5.9
L50A	Muskego and Houghton soils, 0 to 1 percent slopes	5.3	3.0
L132A	Hamel-Glencoe complex, 0 to 2 percent slopes	22.5	12.5
U2A	Udorthents, wet substratum, 0 to 2 percent slopes	18.6	10.4
Totals for Loretto		**179.4**	**100.0**

Source: USDA NRCS (2016).

3.2.5 Land Use

Land use data and maps for Loretto are obtained from the Metropolitan Council's Land Use web pages (Metropolitan Council, 2016). Existing land uses and corresponding acreages, as of 2010, are shown in Table 3-2 and Figure 3-4. Current (2008) and planned (2030) land uses are presented in Figures 3-5 and 3-6. Both of these figures are from Loretto's 2030 Comprehensive Plan.

Additional information about the watershed's land use (human environment) is in section 2.3 of the Inventory and Condition Assessment in the WMP, incorporated here by reference.

Table 3-2. Current land use (2010).

Land Use Categories	2005 Total (acres)	2010 Total (acres)	2010 Percent	Change 2005-2010	
				Absolute (acres)	Relative (percentage)
Residential Total	**85**	**85**	**52.1**	**0**	**0**
Single Family Residential	76	75	46.0	-1	**-1**
Farmsteads	1	1	0.6	0	**0**
Multi-family Residential	8	9	5.5	1	**13**
Mixed Use	**0**	**0**	**0.0**	**0**	**0**
Commerical	**11**	**11**	**6.7**	**0**	**0**
Industrial Total	**20**	**20**	**12.3**	**0**	**0**
Industrial & Utility	12	**12**	7.4	0	**0**
Extractive	0	**0**	0.0	0	**0**
Railway	8	**8**	4.9	0	**0**
Institutional	**6**	**8**	**4.9**	**2**	**33**
Parks, Recreation & Preserves	**22**	**22**	**13.5**	**0**	**0**
Major Vehicular Rights of Way	**0**	**0**	**0.0**	**0**	**0**
Airports	**0**	**0**	**0.0**	**0**	**0**
Agriculture & Undeveloped Total	**19**	**17**	**10.4**	**-2**	**-11**
Agriculture	1	1	0.6	0	**0**
Undeveloped Land	18	16	9.8	-2	**-11**
Agricultural & Vacant	NA	NA	NA	NA	NA
Industrial Parks not Developed	NA	NA	NA	NA	NA
Public & Semi-Public Vacant	NA	NA	NA	NA	NA
Open Water	**0**	**0**	**0.0**	**0**	**0**
Total*	**163**	**163**	**100.0**	**0**	**0**
Notes					

Total acres for 2005 and 2010 are data downloaded from the Metropolitan Council. Data in the remaining columns are calculated and sometimes differ from the Metropolitan Council's data, probably due to rounding.

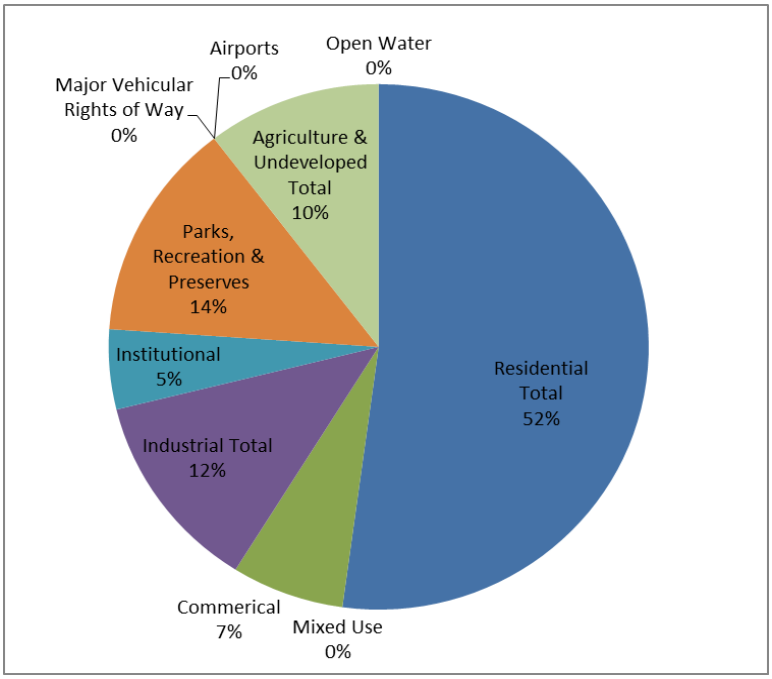

Figure 3-4. Land use composition in 2010.

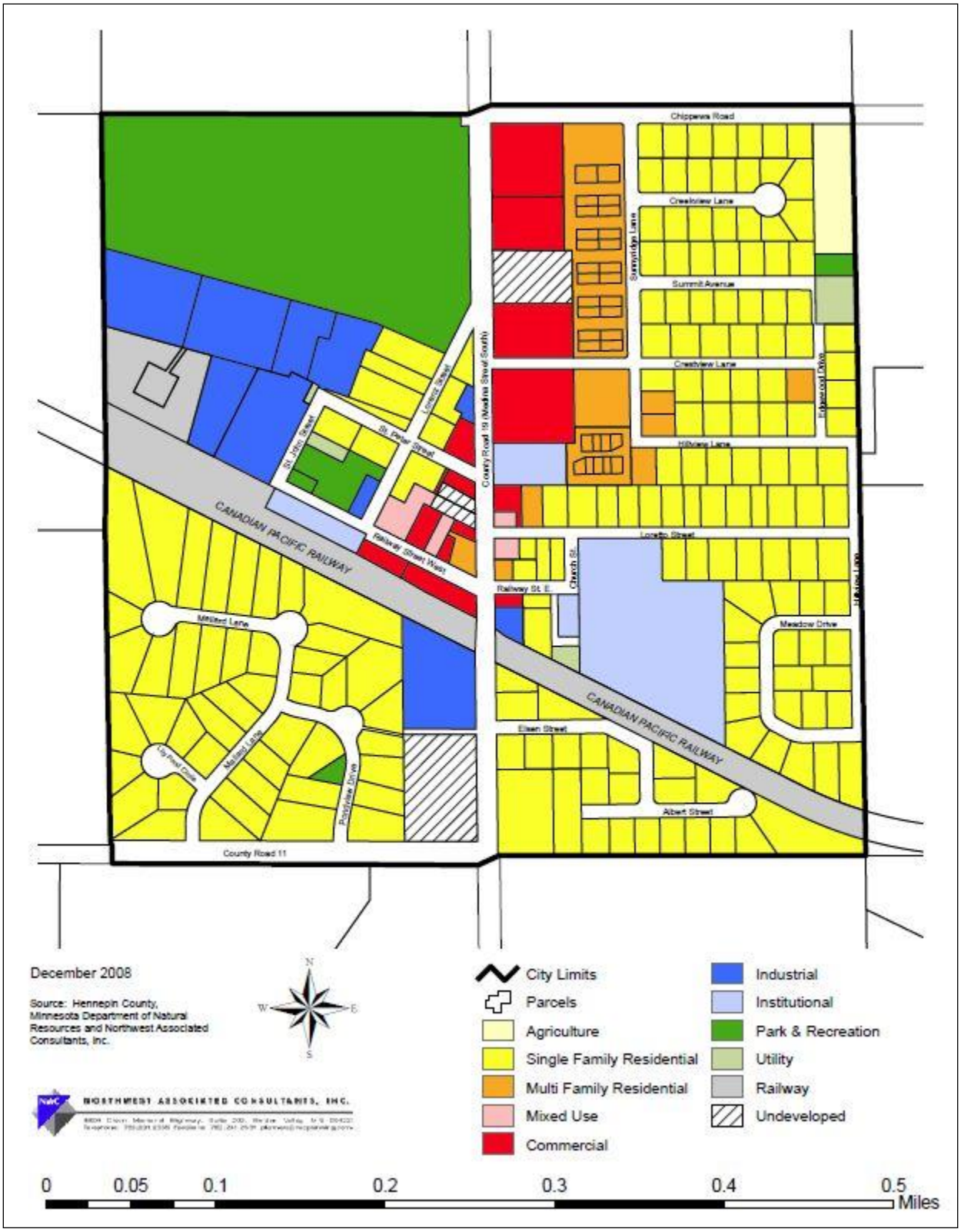

Figure 3-5. Current (2008) land use.
Source: City of Loretto 2030 Comprehensive Plan (Northwest Associated Consultants, 2008).

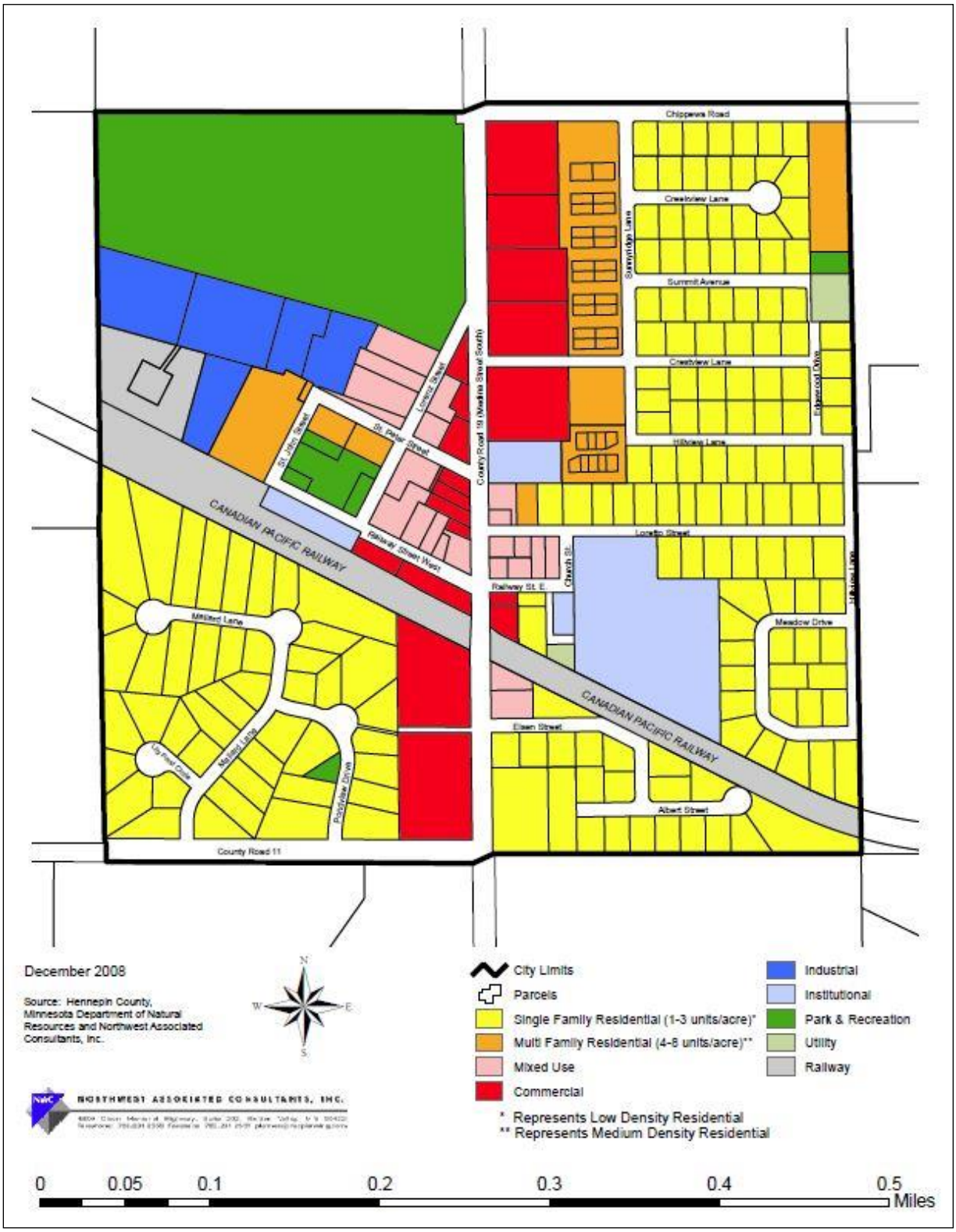

Figure 3-6. Planned (2030) land use.
Source: City of Loretto 2030 Comprehensive Plan (Northwest Associated Consultants, 2008).

3.3 BIOLOGICAL ENVIRONMENT

A discussion of the watershed's vegetation, fish, wildlife, unique features, and scenic areas is provided in the WMP's Inventory and Condition Assessment and is incorporated here by reference. This section expands on the assessment to provide details about Loretto's biological environment.

3.3.1 Vegetation

Loretto is fully developed and no longer includes maple-basswood forest or other native plant communities found in this area before European settlement (Figure 3-7).

Given the extent of development in the City, it is not surprising that it contains no regionally significant ecological areas, as defined by Hennepin County, the Minnesota Department of Natural Resources (MNDNR) and the Minnesota Biological Survey (MBS). Such areas border the City, though, and are described either as altered plant communities with or without native vegetation or as plant communities of moderate quality (Figures 3-7 through 3-9).

The MNDNR and the MBS report no sightings of rare terrestrial plant or animal species within City limits (Figure 3-10).

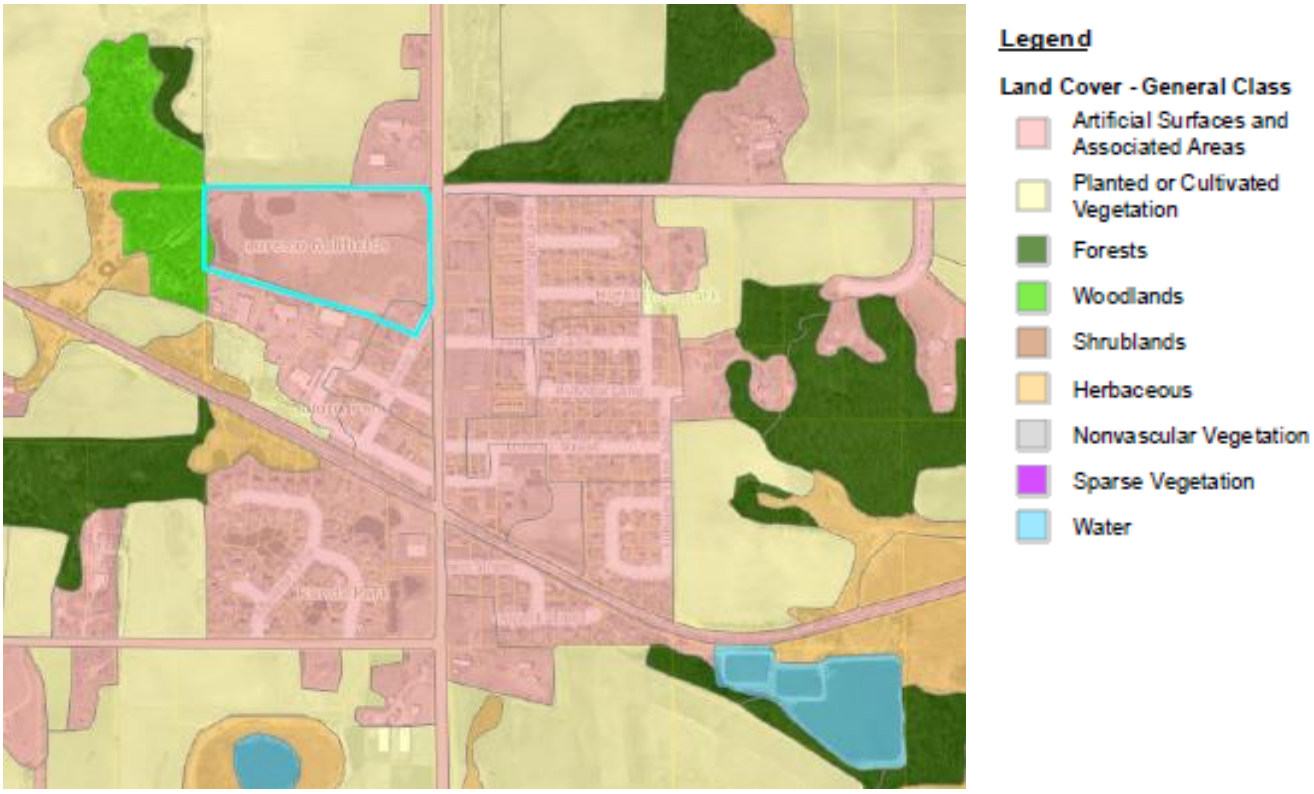

Figure 3-7. Land cover.
Source: Hennepin County (2016).

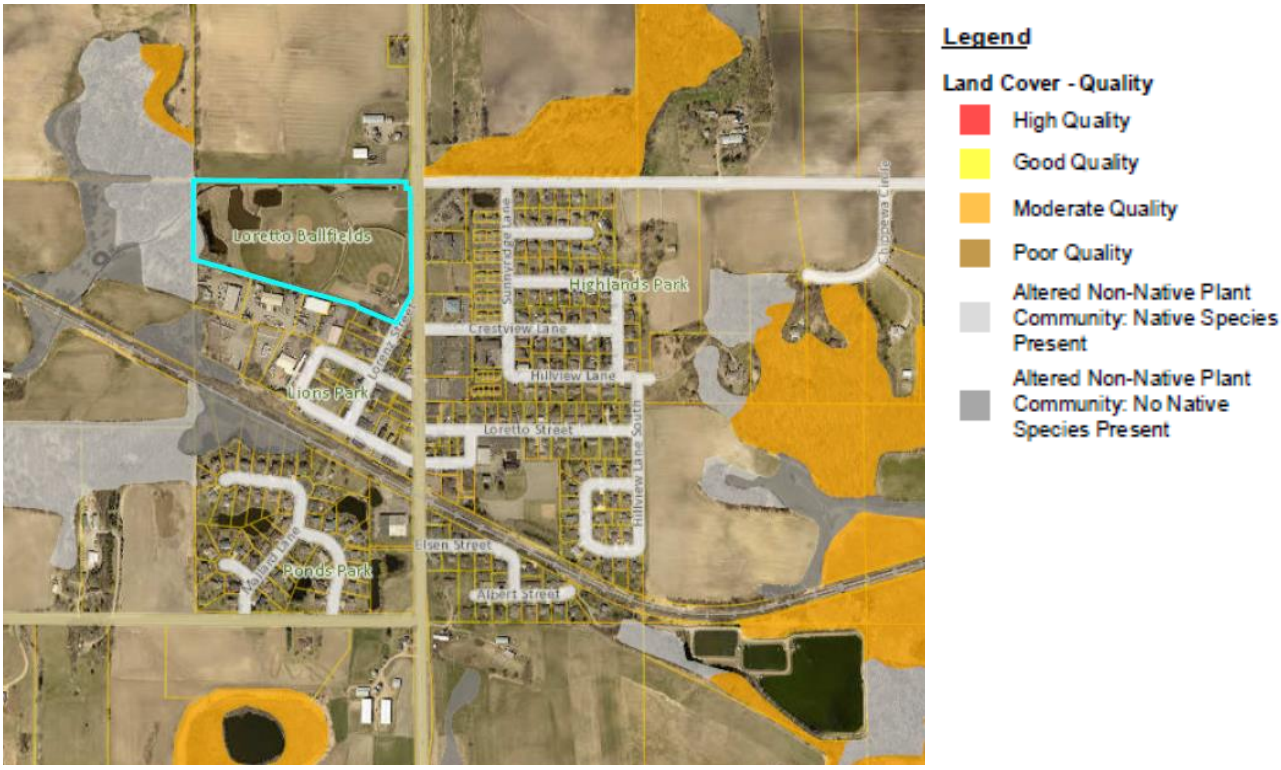

Figure 3-8. Land cover quality.
Source: Hennepin County (2016).

Figure 3-9. Ecologically significant areas.
Source: Hennepin County (2016). Ecologically significant areas are shaded red.

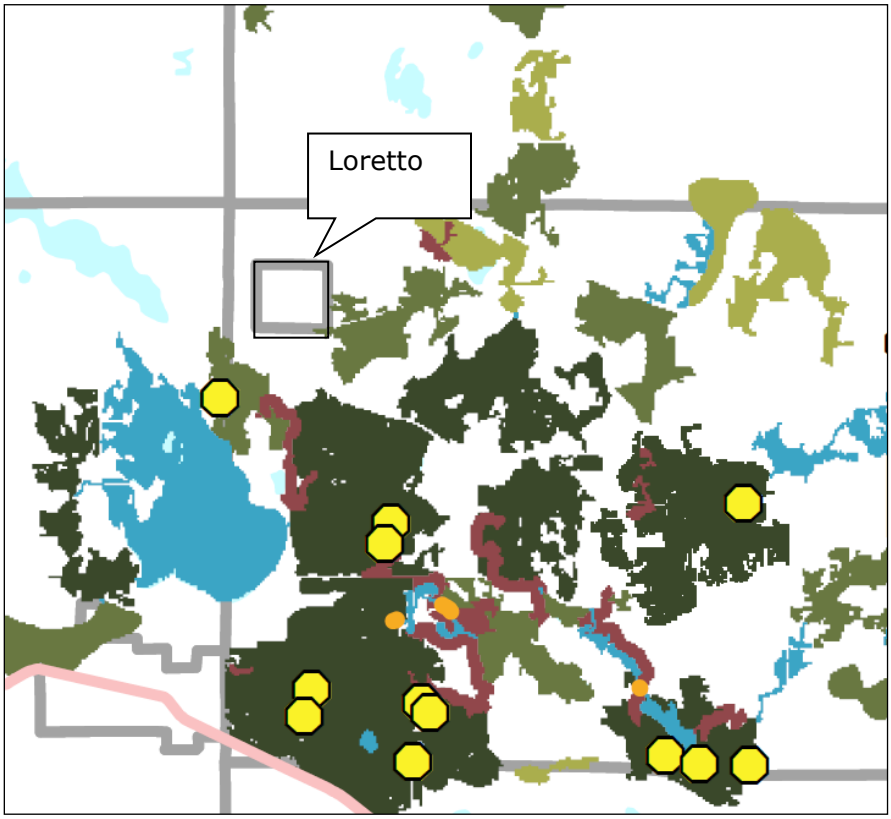

Figure 3-10. Regionally significant ecological areas.
Source: Excerpted from a larger map published by the Minnesota DNR and MBS (2003). Dark, medium, and light green areas correspond to larger, moderate, and smaller areas of significant cover, respectively. Red areas are terrestrial species routes, darker blue areas are aquatic species routes, and lighter blue areas are open water. Yellow polygons mark places where rare animals or plants (federal- or state-listed) were found after 1970 (no aquatic species are included). The Loretto boundary and label are added.

3.3.2 Fish and Wildlife

There are wetlands and ponds but no stocked water bodies in Loretto. See section 3.4 for a more detailed description of the City's water resources. As noted above, there are no formal reports of rare terrestrial animals within the City (Figure 3-10), although there are casual reports of common wildlife species such as squirrels, rabbits, fox and coyote.

3.3.3 Unique Features and Scenic Areas

Loretto has four recreational parks (Figure 3-5), but none are known to include rare or endangered species or their habitats. As stated in the WMP's Inventory and Condition Assessment, "natural communities and rare species . . . are mainly concentrated within the Lake Rebecca and Baker Park Reserves, and around Little Long Lake and Lake Independence." (PSC WMC, 2015.)

3.4 WATER RESOURCES

A discussion of the watershed's lakes, streams, wetlands, ditches, public waters, floodplains, and groundwater is included in the WMP's Inventory and Condition Assessment and is

incorporated here by reference. The following information provides details specific to Loretto for wetlands, impaired waters, and groundwater.

3.4.1 Wetlands

The National Wetland Inventory (NWI) has been updated for most of Minnesota, replacing data gathered in the late 1970s and early 1980s with data gathered from 2010 to 2017.

The NWI update for east central Minnesota, including Hennepin County, is complete, and new maps are available through the MNDNR (2016). Figure 3-11 is a map of NWI wetlands in or near Loretto.

Figure 3-11. National Wetland Inventory for Loretto.
Source: MNDNR (2016).

3.4.2 Impaired Waters

There are no impaired waters within Loretto, but runoff from the City enters several water bodies that are impaired (Figure 3-12). According to the Minnesota Pollution Control Agency (MPCA), Lake Independence is impaired for aquatic consumption due to excess mercury in fish tissue, and for aquatic recreation due to excess nutrients, especially phosphorus (MPCA 2016a). The mercury impairment is caused primarily by atmospheric deposition and is addressed through the Minnesota Statewide Mercury Total Maximum Daily Load (TMDL) study (MPCA 2016b). The nutrient impairment is addressed through the Lake Independence TMDL prepared by the WMC and Three Rivers Park District (PSC WMC, 2007). Through its MS4 (stormwater) report, Loretto reports annually on its progress meeting Lake Independence TMDL requirements. See also section 4.5.1.

Similar to Lake Independence, Lake Sarah is impaired by excess mercury and phosphorus. The Lake Sarah Nutrient TMDL and implementation plan were approved in 2011, and the City reports annually on its progress meeting TMDL requirements. See also section 4.5.2.

A third study, the Pioneer-Sarah Creek Watershed TMDL, addresses nutrient impairments in six lakes and bacterial impairments in four stream reaches in the watershed. The TMDL and its implementation plan, called a Watershed Restoration and Strategies (WRAPS) Report, have been drafted and are expected to be completed in 2017. See section 4.5.3 for more information about this TMDL and Loretto's anticipated load reductions.

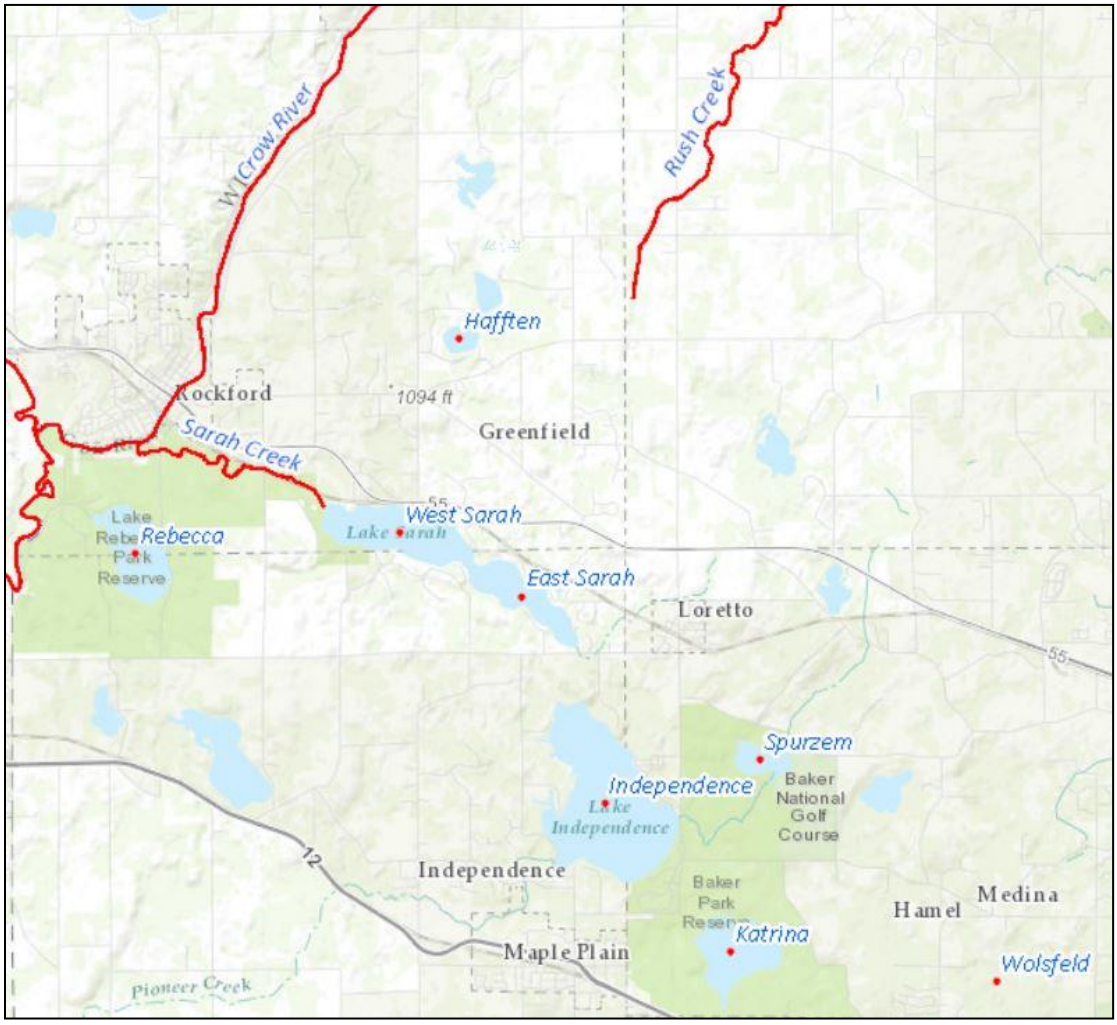

Figure 3-12. Impaired waters near Loretto.
Source: MPCA (2016a). Red dots and lines indicate impaired lakes and streams, respectively.

3.4.3 Groundwater Supply

Drinking water in Loretto is supplied by groundwater. Several publications prepared by the City or the Minnesota Department of Health (MDH) provide recent information about the quality of the City's water supply and plans to protect it.

The City's amended Wellhead Protection Plan, or WHP (City of Loretto, 2013), maps the City's primary and emergency groundwater wells. These are labeled as Well #3 and Well #2, respectively, on Figure 3-13. The WHP evaluates the potential impact of land and water use changes on the wells; identifies issues, problems, and opportunities; and establishes goals, objectives, and a plan of action through 2022.

The WHP identified eight issues related to its groundwater wells and Drinking Water Supply Management Area (DWSMA). One of the issues may have a greater potential to involve surface waters through groundwater-surface water interaction: the presence of unused or unsealed wells that may conduct surface contaminants to groundwater wells. All private wells within the DWSMA have been sealed, but there may be unused, unsealed wells outside the DWSMA. A solution to this potential problem is proposed in chapter 4.

In contrast to some of the concerns in the WHP, the Source Water Assessment for Loretto (MDH, 2016) states that aquifer sensitivity is low because it is covered by geologic materials "that probably protect it from potential sources of contamination." For the same reason, the source water susceptibility – the likelihood that contaminants will reach the source of Loretto's drinking water – is also characterized as low. In addition, the assessment states that "none of the contaminants regulated under the federal Safe Drinking Water Act for this public water supply system have been detected in the source water."

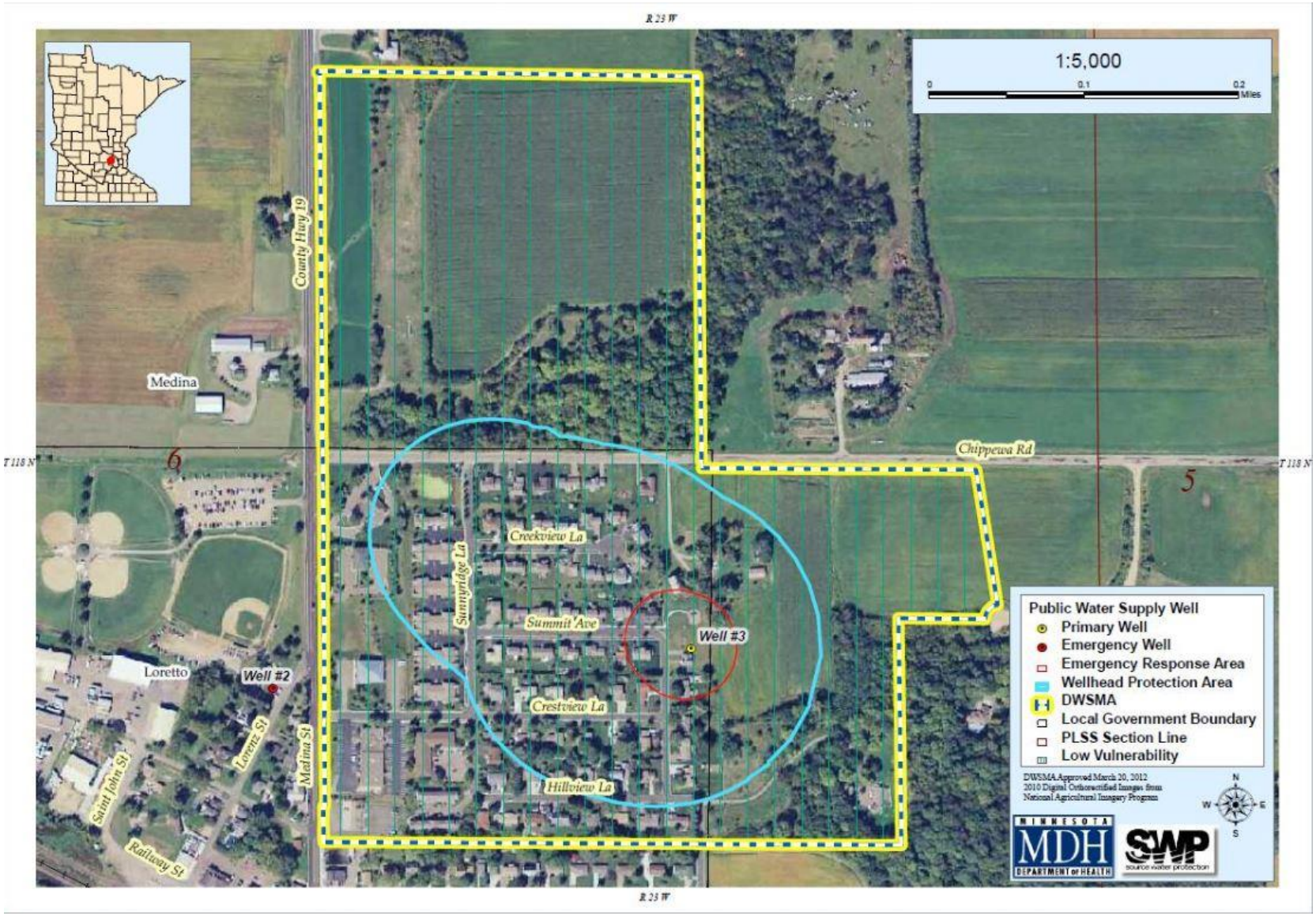

Figure 3-13. Groundwater wells, wellhead protection areas, and drinking water supply management area.
Source: Minnesota Department of Health (MDH, 2013).

4.0 Water Resources Problems, Solutions, and Implementation Plan

4.1 OVERVIEW

This chapter proposes solutions to the existing or potential water resource-related problems identified in Chapter 3. Many of the solutions are solved by continuing current practices and policies, such as implementing the City's Stormwater Pollution Prevention Plan (SWPPP). Others may require additional efforts. All are discussed in section 4.2 of this chapter and summarized in Table 4-1.

Some of the information requested by the WMC, if not provided elsewhere in this Local Plan, is also included in this chapter. Management of rare species and native communities is discussed in section 4.3. Implementation of watershed goals, policies, rules and standards is discussed in section 4.4, and TMDL implementation plans and WRAPS studies are discussed in section 4.5.

Concluding this chapter, an implementation and capital improvement plan is discussed in section 4.6 and a financial analysis is presented in section 4.7.

4.2 DISCUSSION OF SOLUTIONS

4.2.1 MS4 permit implementation

The Minnesota Pollution Control Agency (MPCA) administers the Municipal Separate Storm Sewer System (MS4) program, a federal effort to reduce surface water pollution caused by stormwater runoff. The City of Loretto is a regulated MS4, meaning that it must apply for an MS4 permit every five years, develop a Storm Water Pollution Prevention Plan (SWPPP), and meet permit requirements for stormwater pollution prevention. The current permit covers the period 2013-2018. The City's 2013 permit application and SWPPP are in Appendix E.

Most of the permit requirements fall under a set of six initiatives called Minimum Control Measures (MCMs). Implementation of the MCMs is proposed as a solution to several potential water resource-related problems. In the list below, each MCM is followed by corresponding items from Table 4-1.

- MCM 1: Public education and outreach (Table 4-1, items 1 and 2)
- MCM 2: Public participation/involvement (Table 4-1, items 1 and 2)
- MCM 3: illicit discharge detection and elimination (Table 4-1, item 2)
- MCM 4: Construction site stormwater runoff control (Table 4-1, item 6)
- MCM 5: Post-construction stormwater management (Table 4-1, item 6)
- MCM 6: Pollution prevention/good housekeeping for municipal operations (Table 4-1, item 3)

The City has established a quarterly schedule of tasks needed to implement these measures. It is included in Appendix E. Progress in meeting the goals in the City's SWPPP is reported annually to the MPCA.

Work on the next five-year permit is expected to begin sometime in 2017. Loretto will have an opportunity to review the draft permit and submit comments. When the new permit is

approved by the MPCA, the City must apply for permit coverage and provide an updated SWPPP. Although the content of the new permit is unknown, it is likely that current permit requirements will continue and new requirements will be added.

4.2.2 Enforcement of Floodplain Ordinance

Continued enforcement of the City's Flood Plain Management ordinance (City Code Section 413) is proposed to address the problem of floodplain runoff (Table 4-1, item 5). As stated in Section 413:00, the purpose of the ordinance is not only to prevent loss of life and property, but also to prevent health and safety hazards, such as pollution of surface waters by flood water runoff. The ordinance sets forth permitted uses and standards in areas of the City designated as flood plain and explains the procedures for evaluating permit applications for flood plain use (Section 413:25).

4.2.3 Buffer education

Stormwater runoff from several businesses north of the railroad tracks and east of County Road 19 (Medina Street) enters a system of ditches that leads to Loretto Creek and eventually to Lake Sarah (Figure 4-1).

Figure 4-1. Area businesses selected for buffer education.
Source: Hennepin County Property Interactive Map (2017). The ditches around this complex are not public waters. Blue dots are placed on parcels potentially selected for buffer education.

Maintaining buffers in this area is important to prevent surface water pollution. None of these ditches are on the Minnesota DNR's Buffer Protection Map, so they are not subject to the requirements of the 2015 buffer law. Neither are they subject to any buffer requirements in City code. Therefore, maintaining buffers along these ditches is voluntary.

To encourage and support maintenance of existing buffers, it is proposed that the City provide selected business owners with articles, flyers, brochures, web links, or other sources of information that explain the benefits of buffers and how to maintain them. (Table 4-1, item #7.)

4.2.4 Maintenance of stormwater detention ponds

Eleven stormwater ponds collect runoff in Loretto (Figure 3-2). Easements or maintenance agreements are needed for at least two of them: Pond 1, situated near the intersection of Sunnyridge Lane and Chippewa Road (also called the Highlands area), and Pond 5, situated near the intersection of County Roads 11 and 19 (also called the Pondview Drive area). Both of these ponds are considered high priority for clean-out. Obtaining easements or maintenance agreements is recommended for 2017, and clean-out is recommended for 2018, if funds are available. The cost of cleaning the ponds is estimated at $80,000 each. (Table 4-1, item #8.)

4.2.5 Operation of private drainage systems

Operation of sump pumps, drain tile, or other private drainage systems occasionally delivers excess water to adjacent private properties and to the municipal storm sewer system. This is particularly true for properties along Summit Avenue in northeast Loretto. Although private sump connections and discharges are not prohibited by City code, directing stormwater runoff to adjacent private properties has resulted in complaints to City Hall and requests for excess runoff to be removed. In some instances, excess stormwater has been pumped by residents onto Summit Avenue. Either practice can strain City infrastructure and resources, especially during wetter-than-normal years.

A long-term solution is construction of stormwater improvements along Summit Avenue, similar to what was done on Chippewa Road in 2016. The cost of such improvements is estimated to be $25,000-$30,000. Until funding is available for that project, the City may benefit from adopting a policy addressing the pumping of stormwater onto adjacent private properties or City streets. Public Works staff will respond to requests to pump stormwater from private properties until stormwater improvements are installed. Education may also be an important part of the solution. One or more timely newsletter articles or discussions with property owners may help alleviate the problem. (Table 4-1, item #9.)

4.2.6 Flooding in baseball fields

The baseball fields in the northwest area of the City are prone to flooding because of their low elevation (Figure 4-2). Materials may be carried by receding floodwaters to Loretto Creek and eventually to Lake Sarah, where they may be detrimental to water quality.

Installing a larger culvert under the Canadian Pacific railroad tracks may solve the problem, but because of the high cost of studying and mitigating downstream impacts, that project is not considered in this plan. Instead, educational signage, flyers, or other materials targeted at park users will be developed to help reduce litter and prevent illicit discharges that can be carried to surface waters. In addition, the City will continue timely maintenance and clean-up after ballgames. The single large ballfield – the Arnold Klaers field – is maintained by the

Loretto Community Athletic Association. The Loretto Athletic Park, a complex of four ballfields, is maintained by the City. (Table 4-1, item #10.)

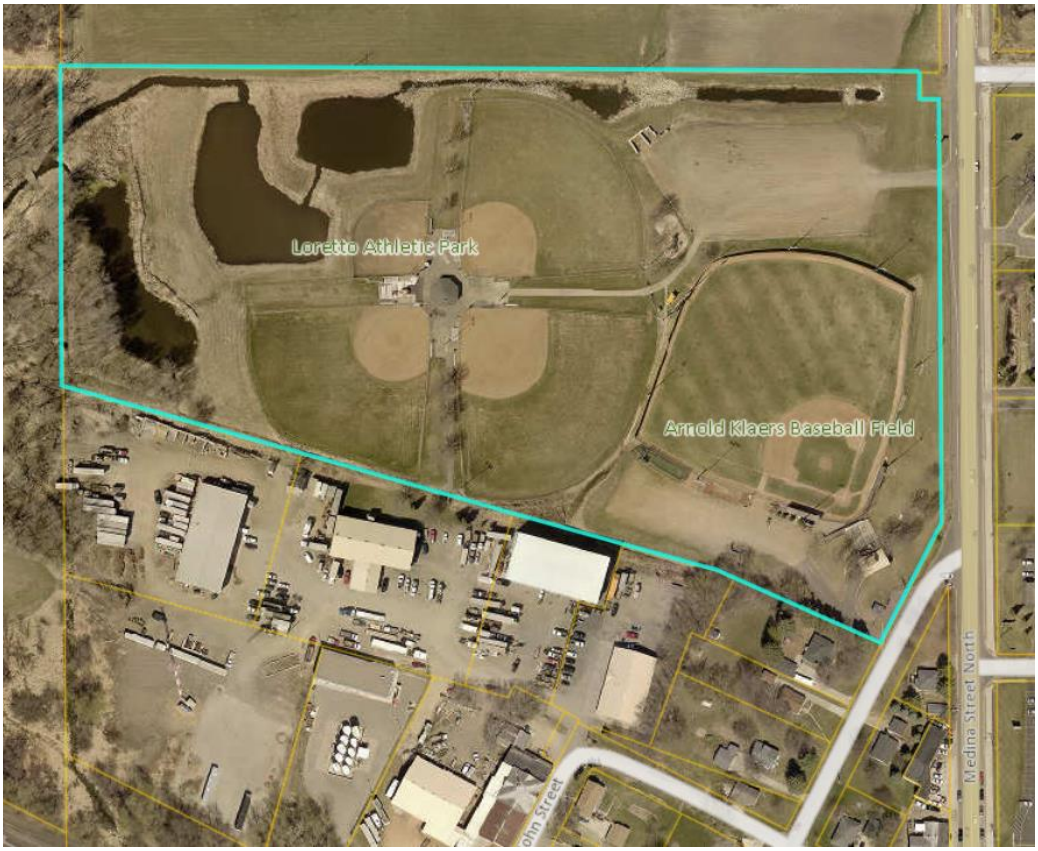

Figure 4-2. Loretto baseball fields.
Source: Hennepin County (2016).

4.2.7 Effluent from Loretto Wastewater Treatment Plant

The Lake Independence TMDL Implementation Plan calls for closure of the Loretto Wastewater Treatment Plan and connection of its sanitary sewer system to the Metropolitan Council (MCES) regional sewer system. The following schedule outlines a sequence of tasks and estimated costs through 2020, when the plant is expected to be closed. (Table 4-1, item #11.)

2017: $50,000 estimated cost
- August 31, 2017: Complete water balance testing at Pond 1 and submit results to MPCA for review and approval.
- Additional tasks: Tri City agreement, MCES Comp Plan, and preliminary engineering design.

2018: $20,000 to $40,000 estimated cost
- March 1, 2018: Submit facility plan for MPCA review and approval.
- December 31, 2018: Submit progress report to MPCA regarding any necessary agreements to implement the selected improvements project.

2019: $50,000 to $150,000 estimated cost
- March 1, 2019**:** Submit plans and specs to MPCA for review and approval.

- September 1, 2019: Submit Notice to Proceed for the proposed improvements project.

2020: $700,000 to $900,000 estimated cost

- March 1, 2020**:** Submit a progress report to MPCA on status of the proposed improvements project.
- December 31, 2020: Attain compliance with 0 mg/L WLA by completing construction project and terminating wastewater discharge.

Although the City has no funding requests formally submitted, the project is listed on the state's current Clean Water Project Priority List (PPL) with 73 points, which is in the fundable range (https://mn.gov/deed/assets/cw-project-priority-list_tcm1045-259217.pdf). As the scope of the project becomes clearer, the City will update its scope and cost on the PPL and is expected to apply for grant funding through the Point Source Implementation Grant (PSIG) program. The grant would fund 50% of the project cost, although proposed state legislation would increase the amount of the grant to 80% of the project cost (Senate File 210, 2017-2018 legislative session).

Project costs not funded by the grant could be funded through a loan from the Public Facilities Authority, a City bond, cash, or another funding source to be identified.

The City will continue discussing how the treatment ponds and property may be used after the facility is closed. Storage of wastewater overage has been proposed for pond 1 (the west-most pond), pending tests on the integrity of the liner. Stormwater storage has been raised as a possible use for ponds 2 and 3. Discussion and planning for these and other potential uses are recommended beginning in 2017.

4.2.8 Unused, unsealed private wells

All of the private wells are sealed within the City's DWSMA (Figure 3-12), but unused, unsealed private wells may yet be discovered outside the DWSMA. If that happens, the City will work with the MDH or Hennepin County to secure grant funding to seal the wells and avoid potential groundwater contamination by surface materials. (Table 4-1, item #12.)

Grant funding to seal both public and private wells is available from the state's Clean Water Fund. Half of the funding is administered by the Minnesota Board of Soil and Water Resources (BWSR) to seal private wells, and half is administered by the MDH to seal public wells.

More information may be obtained by contacting the MDH or BWSR.

- Minnesota Department of Health, Well Management Section, 651-201-4600, health.wells@state.mn.us
- Wayne Zellmer, BWSR Grants Coordinator, 651-297-7361, wayne.zellmer@state.mn.us

Table 4-1. Existing and potential water resource-related problems and solutions.

No.	Existing or potential problem	Solution(s)
1	Residential practices, such as fertilizer and pesticide use.	Continue implementing the education and public participation programs in the City's SWPPP (Minimum Control Measures 1 and 2.)
2	Commercial and industrial practices, such as waste handling.	Continue implementing the education, public participation and illicit discharge inspection programs in the City's SWPPP. (Minimum Control Measures 1, 2, 3.)
3	Municipal operations, such as park and street maintenance.	Continue implementing sections of the SWPPP that involve municipal operations. (Minimum Control Measure 6.)
4	Stormwater runoff over impervious surfaces.	Continue implementing sections of the SWPPP involving inspection and maintenance of stormwater BMPs. Continue observing City and watershed rules and standards regarding development.
5	Floodplain runoff.	Continue enforcing the City's Flood Plain Management ordinance (Section 413).
6	Construction and post-construction erosion.	Continue implementing MS4 permit requirements regarding MCMs 4 and 5.
7	Maintenance of ditches flowing into Lake Sarah.	Educate selected business owners about buffer zones and best management practices to maintain them.
8	Maintenance of stormwater detention ponds.	Establish easements or agreements for clean-out of Highlands and Pondview Drive ponds. Investigate funding options.
		Clean out Highlands (Sunnyridge Ln/Chippewa Rd) and Pondview Drive (CR 11/19) ponds, pending available funds. Reschedule clean-out if funding is not secured.
9	Operation of private drainage systems, such as sump pumps, pipes and drain tiles that empty into the City's storm sewer system.	Develop a policy to address pumping of stormwater by residents onto other properties or into the City's storm sewer system. Plan for stormwater improvements on Summit Avenue.
10	Flooding in the baseball fields.	Develop signage or other educational materials regarding pollution prevention in the park; timely clean-up after games.
11	Effluent from the Loretto Wastewater Treatment Plant (WWTP)	Continue working with the Metropolitan Council and the MPCA to close the WWTP and connect to the Metropolitan Disposal System.
12	Unused, unsealed private wells that may carry surface contaminants to groundwater aquifer.	All wells within the DWSMA have been sealed, but there may be some wells outside the DWSMA that have not been sealed. As unsealed wells are reported or discovered, work with Hennepin County to have them sealed.

4.3 RARE SPECIES AND NATIVE COMMUNITIES

The WMP asks member cities to "explain how rare species and native communities identified in . . . [the WMP] will be managed and protected."

As discussed in section 3.3, Biological Environment, there are no ecologically significant areas in Loretto, and no rare species have been documented within City limits. Even so, the City recognizes the value of its natural environment and has taken several measures to protect it. The City's 2030 Comprehensive Plan discusses natural features and sets several goals, one of which is to "Ensure that community development is compatible with features of the natural environment. . .." Another is to "Preserve and protect the quality of natural vegetation against disease and unnecessary destruction." These goals are expected to remain in the 2040 Comprehensive Plan.

A desire for natural resource protection is also expressed in City code. For example, Loretto's Minimum Subdivision Standards (City Code 430:00, Subd. 6, (h)(5)) states: "In subdividing any land, due regard shall be shown for all natural features, including mature trees, water courses, and wetlands."

4.4 IMPLEMENTATION OF WATERSHED GOALS, POLICIES, RULES AND STANDARDS

Several sections of City code, as well as several City policies and practices, already support implementation of watershed goals, policies, rules, and standards. For example, the City complies with, and will continue to comply with, its MS4 permit requirements, many of which support and reflect watershed standards. In addition, various sections of City code call for site plan reviews, erosion and sediment controls, and other practices that are aligned with watershed goals. By continuing and adapting these practices in light of updates to the Watershed Management Plan, the City will comply with the Commission's goals, policies, rules and standards.

The WMP specifically asks how Loretto will implement and enforce a manure management ordinance. Loretto is fully developed and does not include any agricultural lands or hobby farms. (A farm on the southeast corner of Loretto is homesteaded in Loretto, but its barns and pastures are in Medina.) Therefore, no manure management ordinance is needed.

4.5 TMDL IMPLEMENTATION PLANS AND WRAPS STUDIES

Section 3.4.2 of this Plan discusses impaired waters and Loretto's involvement in three Total Maximum Daily Load (TMDL) studies and their accompanying implementation plans or Watershed Restoration and Protection Strategies (WRAPS) reports. The City's plans for meeting its load reductions under each of these studies are presented below.

4.5.1 Lake Independence TMDL Implementation Plan

The TMDL Implementation Plan for Lake Independence calls for the City to eliminate effluent discharge from the Loretto Wastewater Treatment Plant, or WWTP, to reduce the phosphorus load from 53 pounds per year to zero (MPCA, 2007).

The 2007 TMDL Implementation Plan predicted that the closure would not happen within ten years, and that prediction was accurate. The City continues to work with the Metropolitan Council (MCES), the MPCA, and adjacent cities to connect Loretto to the MCES regional

sewer system. According to a March 2016 draft Facility Plan prepared for the Metropolitan Council (HR Green, 2016), closure of the WWTP is expected by December 31, 2020.

4.5.2 Lake Sarah Nutrient TMDL Implementation Plan

The TMDL Implementation Plan for Lake Sarah, west of Loretto, required the City to reduce its phosphorus load by 37 pounds per year, or 65.4 percent (MPCA, 2011). Residential stormwater management and instream/wetland restoration of channelized reaches of Loretto Creek, a stream that flows through the ballfields and park in northwest Loretto, were prescribed to achieve the reduction. A Joint Powers Agreement between Loretto and Medina for this project credits 37 pounds of phosphorus removal to Loretto and another 103 pounds to Medina, for a total of 140 pounds of phosphorus removed.

The Loretto Creek Restoration project began in 2012 and was completed in 2014. The project constructed stormwater ponds and restored the stream and wetland in northwest Loretto. In-lake monitoring, a cooperative effort of the WMC and Three Rivers Park District, is ongoing.

4.5.3 Pioneer-Sarah Creek Watershed TMDL and WRAPS

The draft TMDL and WRAPS address nutrient impairments in six lakes and bacterial impairments in four stream reaches in the watershed. Two of the six lake impairments – Spurzem Lake and Lake Ardmore – affect Loretto. To help correct the impairment in Spurzem Lake, Loretto has been assigned an estimated load reduction of 29.9 pounds of phosphorus per year from urban runoff. To correct the impairment in Lake Ardmore, Loretto has been assigned an estimated load reduction of 0.46 pounds of phosphorus per year from urban runoff. The City may also bear some responsibility for helping reduce bacterial pollution of streams caused by WWTP effluent and animal (pet) waste.

Although the load reductions likely will not be finalized until after this Local Plan is adopted, the City can anticipate undertaking several projects to meet its load reduction. In the draft WRAPS report, Loretto shares primary or secondary responsibility for the following recommended projects.

- Improve urban/suburban stormwater management by implementing updated Commission standards for runoff volume and rate control for new development projects. (This is accomplished through the plan review process.)

- Continue to review policies and procedures to meet Waste Load Allocation (WLA) goals. (Progress in meeting TMDL goals is reviewed annually through the MS4 program. This is also an opportunity to review policies and procedures related to those goals.)

- Road salt management: Promote and adopt strategies in the Twin Cities Metropolitan Area Chloride Management Plan. (This could be accomplished through existing training and education programs. More information about the Chloride Management Plan is available at https://www.pca.state.mn.us/water/road-salt-and-water-quality.)

- Close the Loretto WWTP. (This project is underway.)

- Educate and enforce pet waste management. (Loretto already does this through its MS4 education program.)

City staff and Council will stay advised of the Pioneer-Sarah Creek Watershed TMDL and WRAPS as their progress continues. More information about the Pioneer-Sarah Creek Watershed TMDL and WRAPS is available on the Commission's website at http://www.pioneersarahcreek.org/.

4.5.4 Upcoming Projects

The WMC requires that the Local Plan identify known upcoming projects, such as street or highway reconstruction, that may provide opportunities to include load and volume reduction BMPs.

The City is not planning any street reconstruction projects and is not aware of any plans to reconstruct county highways within City limits.

4.6 IMPLEMENTATION AND CAPITAL IMPROVEMENT PLAN

Minnesota Rule 8410.0160 requires that this Local Plan "include a table for a capital improvement program that sets forth, by year, details of each contemplated capital improvement that includes the schedule, estimated cost, and funding source."

Table 4-2 provides a 10-year outlook for stormwater-related projects. It includes not only capital improvement projects but also tasks related to MS4 implementation, code compliance, and TMDL implementation. In keeping with Minnesota Rule 8410, the table is intended to present estimated costs, propose an implementation schedule, and identify potential funding sources for projects related to both stormwater infrastructure and routine stormwater management. It is a starting place for discussion, especially for years beyond 2018, and it can and should be updated as plans are developed.

Table 4-2. Implementation and capital improvement plan through 2027.

Project	Cost est.	Funding source(s)				
2017			Stormwater fund	Wastewater fund	Capital Fund	Other
MS4 SWPPP implementation, including education, inspections, and routine maintenance.	$7,400	Stormwater fund	$7,400			
Obtain easements or maintenance agreements for stormwater pond clean-out; investigate funding to clean two ponds	$1,645	Stormwater fund	$1,645			
WWTP Closure – 2017 tasks (section 4.2.7)	$50,000	Wastewater fund ($12,000), other ($38,000)		$12,000		$38,000
Planning for use of WWTP ponds/area after closure	$500	Wastewater fund		$500		
Pioneer-Sarah Watershed TMDL tasks: Participate in Commission meetings; implement recommended practices, such as by adopting the chloride management plan	$2,000	Stormwater fund	$2,000			
		2017 Total	**$11,045**	**$12,500**	**$0**	**$38,000**
2018			Stormwater fund	Wastewater fund	Capital Fund	Other
MS4 SWPPP implementation, including education, inspections, and routine maintenance.	$7,500	Stormwater fund	$7,500			
MS4 permit renewal and SWPPP update	$3,000	Stormwater fund	$3,000			
Buffer education for selected businesses	$100	Stormwater fund	$100			
Develop a policy to address stormwater drainage onto private property or City streets	$415	Stormwater fund	$415			
Develop and post signage in ball fields regarding litter and general pollution prevention	$800	Stormwater fund	$800			
WWTP closure – 2018 tasks (Budget assumes higher amount)	$20,000 - $40,000	PSIG grant, PFA loan, City bond, cash				$40,000
Planning for use of WWTP ponds/area after closure (feasibility study e.g.)	$5,000	Wastewater fund		$5,000		
Clean-out of Highlands (Sunnyridge Ln/Chippewa Rd) and Pondview Drive stormwater ponds	$160,000	Grants, loans, etc.				$160,000
		2018 Total	**$11,815**	**$5,000**	**$0**	**$200,000**

Table 4-2, cont. Implementation and capital improvement plan through 2027.

2019			Stormwater fund	Wastewater fund	Capital Fund	Other
MS4 SWPPP implementation, including education, inspections, and routine maintenance.	$7,600	Stormwater fund	$7,600			
MS4 permit renewal and SWPPP update (follow-up from 2018)	$2,000	Stormwater fund	$2,000			
WWTP closure – 2019 tasks (Budget assumes higher amount)	$50,000 - $150,000	PSIG grant, PFA loan, City bond, cash		TBD	TBD	TBD
Planning for use of WWTP ponds/area after closure (e.g., selection of and preparation for preferred choice from 2018 feasibility study)	$5,000 - $10,000	Stormwater-related or other grant funding		TBD	TBD	TBD
Planning for stormwater improvement project (e.g., Summit Avenue improvements)	$2,000	Stormwater fund	$2,000			
		2019 Total	**$11,600**	**$0**	**$0**	
2020			Stormwater fund	Wastewater fund	Capital Fund	Other
MS4 SWPPP implementation, including education, inspections, and routine maintenance.	$7,600	Stormwater budget	$7,600			
WWTP Closure – 2020 tasks (Budget assumes higher amount and 50% cost share with PSIG grant, paid with wastewater fund)	$700,000 - $900,000	PSIG grant, PFA loan, City bond, cash		TBD	TBD	TBD
Preparation for use of WWTP ponds/area after closure	$5,000	Wastewater fund		$5,000		
Continued planning for stormwater improvement project (e.g., Summit Avenue improvements)	$2,000	Stormwater fund	$2,000			
PSC WMC may begin developing its Fourth Generation Watershed Management Plan. Participate in meetings to guide development.	$500	Stormwater fund	$500			
		2020 Total	**$10,100**	**$5,000**	**$0**	**$0**

Table 4-2, cont. Implementation and capital improvement plan through 2027.

2021-2023			Stormwater fund	Wastewater fund	Capital Fund	Other
MS4 SWPPP implementation, including education, inspections, and routine maintenance.	$7,700 per year	Stormwater fund	$23,100			
MS4 permit renewal and SWPPP update	$5,000	Stormwater fund	$5,000			
Implementation of plans to use WWTP ponds/area	$10,000			$10,000		
Update LSWMP after PSC WMC adopts its Fourth Generation WMP	$12,000		$12,000			
Implementation of stormwater improvement project (Summit Avenue improvements, e.g.)	$25-$30,000	Stormwater fund	$30,000			
MS4 permit renewal and SWPPP Update	$10,000	Stormwater fund	$10,000			
		2021-2023 Total	**$80,100**	**$10,000**	**$0**	**$0**
2024-2027			Stormwater fund	Wastewater fund	Capital Fund	Other
MS4 SWPPP implementation, including education, inspections, and routine maintenance.	$7,800 per year	Stormwater fund	$23,400			
MS4 permit renewal and SWPPP update	$8,000	Stormwater fund	$8,000			
Planning for stormwater improvement project(s) to be completed in 2027 or later.	$5,000 per year	Stormwater fund	$15,000			
Implementation of stormwater improvement project in 2027	$50,000	Grant funding				$50,000
		2024-2027 Total	**$46,400**	**$0**	**$0**	**$50,000**

4.7 FINANCIAL ANALYSIS

Table 4-2 presents cost estimates for the stormwater-related projects and tasks known or anticipated through 2027. Funding through the City's stormwater, wastewater, and capital funds will pay for some of them, but additional funds may need to be secured to pay for larger projects.

Several options for stormwater funding are available. For the last three years, the MPCA has hosted annual stormwater funding workshops that offer information about grants, loans, and other funds. Table 4-3 summarizes information provided at the February 2017 workshop. To inquire about future workshops, contact Anne Gelbmann, MPCA Stormwater Research, Engineering & Outreach, at 651-757-2384 or Anne.Gelbmann@state.mn.us.

The Minnesota Stormwater Manual also provides information about stormwater funding. See https://stormwater.pca.state.mn.us/index.php/Funding.

The MPCA's Stormwater webpages (https://www.pca.state.mn.us/water/stormwater) include a link to Financial Assistance. Their guide, "Community options for water infrastructure financing," is in Appendix F.

Table 4-3. Sources of funding for stormwater projects (public or private) – February 2017.

Name	Due Date	Contact	Web site
Clean Water Partnership Loan	Year Round	Pete Fastner/MPCA peter.fastner@state.mn.us 651-757-2349	http://www.pca.state.mn.us/xggxb36
State Revolving Fund (SRF) Loans Point Source Implementation Grant (PSIG)	March	Bill Dunn/MPCA bill.dunn@state.mn.us 651-757-2324	http://www.pca.state.mn.us/PPL
Ag BMP Loans	Year Round	Dwight Wilcox, MDA 651-201-6618	http://www.mda.state.mn.us/grants/loans/agbmploan.aspx
MN Clean Water Fund Grants	Late Summer	Marcey Westrick/Board of Water and Soil Resources Marcey.westrick@state.mn.us 651-284-4153	www.bwsr.state.mn.us
EPA 319 Grant	February 17	Pete Fastner/MPCA Peter.Fastner@state.mn.us 651-757-2349	http://www.pca.state.mn.us/xggxb36
Watershed Districts		Your local watershed district	
Soil and Water Conservation Districts		Your local soil and water conservation district	
Stormwater Utility Fee			Lots of city examples
Legislative-Citizen Commission on Minnesota Resources (LCCMR)	May 15, 2017		www.lccmr.leg.mn/index.html
Homeland Security		Jim McClosky/Dept of Public Safety James.mcclosky@state.mn.us 651-201-7455	https://dps.mn.gov/divisions/hsem/hazard-mitigation/Pages/default.aspx

Name	Due Date	Contact	Web site
EPA Green Infrastructure Funding Opportunities		EPA	http://www.epa.gov/green-infrastructure/green-infrastructure-funding-opportunities#Funding Sources
EPA's Catalog of Federal Funding for Watershed Protection	varies	EPA	https://ofmpub.epa.gov/apex/watershedfunding/f?p=fedfund:1

Source: MPCA Summary of Stormwater Funding Opportunities, https://stormwater.pca.state.mn.us/index.php?title=File:Sources_of_Funding_for_Stormwater_Projects_2017.docx

5.0 Administration

5.1 REVIEW AND ADOPTION PROCESS

Review and adoption of this Plan will follow the procedure in Minnesota Statutes 103B.235:

"Subd. 3. **Review.** After consideration but before adoption by the governing body, each local unit shall submit its water management plan to the watershed management organization for review for consistency with the watershed plan adopted pursuant to section 103B.231. If the county or counties having territory within the local unit have a state-approved and locally adopted groundwater plan, the local unit shall submit its plan to the county or counties for review. The county or counties have 45 days to review and comment on the plan. The organization shall approve or disapprove the local plan or parts of the plan. The organization shall have 60 days to complete its review; provided, however, that the watershed management organization shall, as part of its review, take into account the comments submitted to it by the Metropolitan Council pursuant to subdivision 3a. If the organization fails to complete its review within the prescribed period, the local plan shall be deemed approved unless an extension is agreed to by the local unit.

"Subd. 3a. **Review by Metropolitan Council.** Concurrently with its submission of its local water management plan to the watershed management organization as provided in subdivision 3, each local unit of government shall submit its water management plan to the Metropolitan Council for review and comment by the council. The council shall have 45 days to review and comment upon the local plan or parts of the plan with respect to consistency with the council's comprehensive development guide for the metropolitan area. The council's 45-day review period shall run concurrently with the 60-day review period by the watershed management organization provided in subdivision 3. The Metropolitan Council shall submit its comments to the watershed management organization and shall send a copy of its comments to the local government unit. If the Metropolitan Council fails to complete its review and make comments to the watershed management organization within the 45-day period, the watershed management organization shall complete its review as provided in subdivision 3.

"Subd. 4. **Adoption and implementation**. After approval of the local plan by the organization, the local government unit shall adopt and implement its plan within 120 days and shall amend its official controls accordingly within 180 days.

"Subd. 5. **Amendments**. To the extent and in the manner required by the organization, all amendments to local water management plans shall be submitted to the organization for review and approval in accordance with the provisions of subdivisions 3 and 3a for the review of plans."

6.0 References

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Appendix A

Soils Report

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Hennepin County, Minnesota

Loretto, MN

October 3, 2016

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Hennepin County, Minnesota
Survey Area Data: Version 11, Sep 18, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 16, 2012—Apr 6, 2012

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Hennepin County, Minnesota (MN053)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
L23A	Cordova loam, 0 to 2 percent slopes	6.2	3.5%
L26B	Shorewood silty clay loam, 3 to 6 percent slopes	0.5	0.3%
L35A	Lerdal loam, 1 to 3 percent slopes	2.0	1.1%
L36A	Hamel, overwash-Hamel complex, 0 to 3 percent slopes	3.3	1.8%
L40B	Angus-Kilkenny complex, 2 to 6 percent slopes	23.6	13.1%
L41C2	Lester-Kilkenny complex, 6 to 12 percent slopes, eroded	63.9	35.6%
L41D2	Lester-Kilkenny complex, 12 to 18 percent slopes, eroded	18.7	10.4%
L41E	Lester-Kilkenny complex, 18 to 25 percent slopes	4.0	2.2%
L41F	Lester-Kilkenny complex, 25 to 35 percent slopes	0.2	0.1%
L49A	Klossner soils, depressional, 0 to 1 percent slopes	10.6	5.9%
L50A	Muskego and Houghton soils, 0 to 1 percent slopes	5.3	2.9%
L132A	Hamel-Glencoe complex, 0 to 2 percent slopes	22.5	12.5%
U2A	Udorthents, wet substratum, 0 to 2 percent slopes	18.6	10.4%
Totals for Area of Interest		**179.3**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas

for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of

the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Hennepin County, Minnesota

L23A—Cordova loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: h4xf
Mean annual precipitation: 23 to 35 inches
Mean annual air temperature: 43 to 50 degrees F
Frost-free period: 124 to 200 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Cordova and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cordova

Setting

Landform: Drainageways on moraines
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Till

Typical profile

Ap,AB - 0 to 13 inches: loam
Btg - 13 to 33 inches: clay loam
Cg - 33 to 80 inches: loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 6 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 20 percent
Gypsum, maximum in profile: 1 percent
Available water storage in profile: High (about 10.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Other vegetative classification: Level Swale, Neutral (G103XS001MN)
Hydric soil rating: Yes

Minor Components

Glencoe, depressional

Percent of map unit: 10 percent
Landform: Depressions on moraines
Down-slope shape: Concave
Across-slope shape: Concave

Other vegetative classification: Ponded If Not Drained (G103XS013MN)
Hydric soil rating: Yes

Nessel

Percent of map unit: 5 percent
Landform: Moraines
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Sloping Upland, Acid (G103XS006MN)
Hydric soil rating: No

L26B—Shorewood silty clay loam, 3 to 6 percent slopes

Map Unit Setting

National map unit symbol: h4xb
Elevation: 900 to 1,200 feet
Mean annual precipitation: 25 to 34 inches
Mean annual air temperature: 43 to 50 degrees F
Frost-free period: 124 to 172 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Shorewood and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Shorewood

Setting

Landform: Hills on lake plains, hills on moraines
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Lacustrine sediments over till

Typical profile

Ap,A,AB - 0 to 17 inches: silty clay loam
Bt - 17 to 39 inches: silty clay
2BCg,2Cg - 39 to 60 inches: loam

Properties and qualities

Slope: 3 to 6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 20 percent
Gypsum, maximum in profile: 1 percent

Available water storage in profile: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D
Other vegetative classification: Sloping Upland, Neutral (G103XS002MN)
Hydric soil rating: No

Minor Components

Good thunder

Percent of map unit: 5 percent
Landform: Lake plains, moraines
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Sloping Upland, Acid (G103XS006MN)
Hydric soil rating: No

Minnetonka

Percent of map unit: 5 percent
Landform: Drainageways on lake plains, drainageways on moraines
Down-slope shape: Concave
Across-slope shape: Linear
Other vegetative classification: Level Swale, Neutral (G103XS001MN)
Hydric soil rating: Yes

L35A—Lerdal loam, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: h63c
Mean annual precipitation: 23 to 35 inches
Mean annual air temperature: 43 to 50 degrees F
Frost-free period: 124 to 200 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Lerdal and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lerdal

Setting

Landform: Moraines
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Glaciofluvial and reworked till over till

Typical profile

Ap - 0 to 13 inches: loam

Bt,Btg - 13 to 47 inches: clay loam
Bk - 47 to 60 inches: loam

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 20 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 25 percent
Gypsum, maximum in profile: 1 percent
Available water storage in profile: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D
Other vegetative classification: Level Swale, Acid (G103XS005MN)
Hydric soil rating: No

Minor Components

Mazaska

Percent of map unit: 10 percent
Landform: Swales on moraines
Down-slope shape: Concave
Across-slope shape: Linear
Other vegetative classification: Level Swale, Acid (G103XS005MN)
Hydric soil rating: Yes

Cordova

Percent of map unit: 5 percent
Landform: Swales on moraines, flats on moraines
Down-slope shape: Concave
Across-slope shape: Linear
Other vegetative classification: Level Swale, Neutral (G103XS001MN)
Hydric soil rating: Yes

Le sueur

Percent of map unit: 5 percent
Landform: Moraines
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Sloping Upland, Acid (G103XS006MN)
Hydric soil rating: No

L36A—Hamel, overwash-Hamel complex, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2tsjx
Elevation: 690 to 1,840 feet
Mean annual precipitation: 24 to 37 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 140 to 180 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Hamel, overwash, and similar soils: 50 percent
Hamel and similar soils: 43 percent
Minor components: 7 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hamel, Overwash

Setting

Landform: Ground moraines
Landform position (three-dimensional): Dip
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Parent material: Fine-loamy colluvium over loamy till

Typical profile

Ap - 0 to 12 inches: loam
A - 12 to 26 inches: loam
Btg - 26 to 48 inches: clay loam
Cg - 48 to 79 inches: clay loam

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 20 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 11.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Other vegetative classification: Level Swale, Neutral (G103XS001MN)
Hydric soil rating: No

Description of Hamel

Setting

Landform: Ground moraines
Landform position (three-dimensional): Dip
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Parent material: Fine-loamy colluvium over loamy till

Typical profile

Ap - 0 to 10 inches: loam
A - 10 to 24 inches: loam
Btg - 24 to 46 inches: clay loam
Cg - 46 to 79 inches: clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: About 0 to 8 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 20 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Other vegetative classification: Level Swale, Neutral (G103XS001MN)
Hydric soil rating: Yes

Minor Components

Terril

Percent of map unit: 5 percent
Landform: Ground moraines
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Linear
Other vegetative classification: Sloping Upland, Neutral (G103XS002MN)
Hydric soil rating: No

Glencoe

Percent of map unit: 2 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: Pothole Marsh (R103XY002MN)
Other vegetative classification: Ponded If Not Drained (G103XS013MN)
Hydric soil rating: Yes

L40B—Angus-Kilkenny complex, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: h64l
Mean annual precipitation: 23 to 35 inches
Mean annual air temperature: 43 to 50 degrees F
Frost-free period: 124 to 200 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Angus and similar soils: 45 percent
Kilkenny and similar soils: 40 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Angus

Setting

Landform: Hills on moraines
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Till

Typical profile

Ap - 0 to 8 inches: loam
Bt - 8 to 35 inches: clay loam
BC - 35 to 40 inches: clay loam
C - 40 to 80 inches: loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 43 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 20 percent
Gypsum, maximum in profile: 1 percent
Available water storage in profile: High (about 10.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Other vegetative classification: Sloping Upland, Acid (G103XS006MN)
Hydric soil rating: No

Description of Kilkenny

Setting

Landform: Hills on moraines
Landform position (two-dimensional): Summit
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Glaciofluvial sediments and reworked till over till

Typical profile

Ap - 0 to 11 inches: clay loam
Bt - 11 to 35 inches: clay loam
2Bk,2C - 35 to 80 inches: loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 20 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 20 percent
Gypsum, maximum in profile: 1 percent
Available water storage in profile: High (about 10.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D
Other vegetative classification: Sloping Upland, Acid (G103XS006MN)
Hydric soil rating: No

Minor Components

Lerdal

Percent of map unit: 10 percent
Landform: Moraines
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Level Swale, Acid (G103XS005MN)
Hydric soil rating: No

Mazaska

Percent of map unit: 5 percent
Landform: Swales on moraines
Down-slope shape: Concave
Across-slope shape: Linear
Other vegetative classification: Level Swale, Acid (G103XS005MN)
Hydric soil rating: Yes

L41C2—Lester-Kilkenny complex, 6 to 12 percent slopes, eroded

Map Unit Setting

National map unit symbol: h64p
Mean annual precipitation: 23 to 35 inches
Mean annual air temperature: 43 to 50 degrees F
Frost-free period: 124 to 200 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Lester, eroded, and similar soils: 45 percent
Kilkenny, eroded, and similar soils: 40 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lester, Eroded

Setting

Landform: Hills on moraines
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Till

Typical profile

Ap - 0 to 7 inches: loam
Bt - 7 to 38 inches: clay loam
Bk - 38 to 60 inches: loam
C - 60 to 80 inches: loam

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 25 percent
Gypsum, maximum in profile: 1 percent
Available water storage in profile: High (about 10.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Other vegetative classification: Sloping Upland, Acid (G103XS006MN)
Hydric soil rating: No

Description of Kilkenny, Eroded

Setting

Landform: Hills on moraines
Landform position (two-dimensional): Shoulder
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Glaciofluvial sediments and reworked till over till

Typical profile

Ap - 0 to 9 inches: clay loam
Bt - 9 to 53 inches: clay loam
2BC,2C - 53 to 80 inches: loam

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 30 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 20 percent
Gypsum, maximum in profile: 1 percent
Available water storage in profile: High (about 10.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Other vegetative classification: Sloping Upland, Acid (G103XS006MN)
Hydric soil rating: No

Minor Components

Terril

Percent of map unit: 10 percent
Landform: Hills on moraines
Landform position (two-dimensional): Footslope
Down-slope shape: Concave
Across-slope shape: Linear
Other vegetative classification: Sloping Upland, Neutral (G103XS002MN)
Hydric soil rating: No

Derrynane

Percent of map unit: 5 percent
Landform: Drainageways on moraines
Down-slope shape: Concave
Across-slope shape: Linear
Other vegetative classification: Level Swale, Neutral (G103XS001MN)
Hydric soil rating: Yes

L41D2—Lester-Kilkenny complex, 12 to 18 percent slopes, eroded

Map Unit Setting

National map unit symbol: h64q
Mean annual precipitation: 23 to 35 inches
Mean annual air temperature: 43 to 50 degrees F
Frost-free period: 124 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Lester, eroded, and similar soils: 45 percent
Kilkenny, eroded, and similar soils: 35 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lester, Eroded

Setting

Landform: Hills on moraines
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Till

Typical profile

Ap - 0 to 7 inches: loam
Bt - 7 to 38 inches: clay loam
Bk - 38 to 60 inches: loam
C - 60 to 80 inches: loam

Properties and qualities

Slope: 12 to 18 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 25 percent
Gypsum, maximum in profile: 1 percent
Available water storage in profile: High (about 10.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Other vegetative classification: Sloping; Fine Texture (G103XS023MN)
Hydric soil rating: No

Description of Kilkenny, Eroded

Setting

Landform: Hills on moraines
Landform position (two-dimensional): Shoulder
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Glaciofluvial sediments and reworked till over till

Typical profile

Ap - 0 to 9 inches: clay loam
Bt - 9 to 53 inches: clay loam
2BC,2C - 53 to 80 inches: loam

Properties and qualities

Slope: 12 to 18 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 30 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 20 percent
Gypsum, maximum in profile: 1 percent
Available water storage in profile: High (about 10.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Other vegetative classification: Sloping; Fine Texture (G103XS023MN)
Hydric soil rating: No

Minor Components

Terril

Percent of map unit: 10 percent
Landform: Hills on moraines
Landform position (two-dimensional): Footslope
Down-slope shape: Concave
Across-slope shape: Linear
Other vegetative classification: Sloping Upland, Neutral (G103XS002MN)
Hydric soil rating: No

Derrynane

Percent of map unit: 5 percent
Landform: Drainageways on moraines
Down-slope shape: Concave
Across-slope shape: Linear
Other vegetative classification: Level Swale, Neutral (G103XS001MN)
Hydric soil rating: Yes

Ridgeton

Percent of map unit: 5 percent
Landform: Hills on moraines
Landform position (two-dimensional): Footslope

Down-slope shape: Concave
Across-slope shape: Linear
Other vegetative classification: Sloping Upland, Neutral (G103XS002MN)
Hydric soil rating: No

L41E—Lester-Kilkenny complex, 18 to 25 percent slopes

Map Unit Setting

National map unit symbol: gk0r
Mean annual precipitation: 23 to 35 inches
Mean annual air temperature: 43 to 50 degrees F
Frost-free period: 124 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Lester and similar soils: 45 percent
Kilkenny and similar soils: 40 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lester

Setting

Landform: Hills on moraines
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Till

Typical profile

A - 0 to 5 inches: loam
BE,Bt - 5 to 34 inches: clay loam
Bk - 34 to 60 inches: loam
C - 60 to 80 inches: loam

Properties and qualities

Slope: 18 to 25 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 25 percent
Gypsum, maximum in profile: 1 percent
Available water storage in profile: High (about 10.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Other vegetative classification: Steep; Fine Texture (G103XS017MN)
Hydric soil rating: No

Description of Kilkenny

Setting

Landform: Hills on moraines
Landform position (two-dimensional): Shoulder
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Glaciofluvial sediments and reworked till over till

Typical profile

A - 0 to 7 inches: clay loam
Bt - 7 to 31 inches: clay loam
2Bk,2C - 31 to 80 inches: loam

Properties and qualities

Slope: 18 to 25 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 30 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 20 percent
Gypsum, maximum in profile: 1 percent
Available water storage in profile: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Other vegetative classification: Steep; Fine Texture (G103XS017MN)
Hydric soil rating: No

Minor Components

Terril

Percent of map unit: 5 percent
Landform: Hills on moraines
Landform position (two-dimensional): Footslope
Down-slope shape: Concave
Across-slope shape: Linear
Other vegetative classification: Sloping Upland, Neutral (G103XS002MN)
Hydric soil rating: No

Derrynane

Percent of map unit: 5 percent
Landform: Drainageways on moraines
Down-slope shape: Concave
Across-slope shape: Linear
Other vegetative classification: Level Swale, Neutral (G103XS001MN)
Hydric soil rating: Yes

Ridgeton

Percent of map unit: 5 percent
Landform: Hills on moraines
Landform position (two-dimensional): Footslope
Down-slope shape: Concave
Across-slope shape: Linear
Other vegetative classification: Sloping; Fine Texture (G103XS023MN)
Hydric soil rating: No

L41F—Lester-Kilkenny complex, 25 to 35 percent slopes

Map Unit Setting

National map unit symbol: h64s
Mean annual precipitation: 23 to 35 inches
Mean annual air temperature: 43 to 50 degrees F
Frost-free period: 124 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Lester and similar soils: 45 percent
Kilkenny and similar soils: 35 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lester

Setting

Landform: Escarpments on moraines
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Till

Typical profile

A - 0 to 5 inches: loam
BE,Bt - 5 to 34 inches: clay loam
Bk - 34 to 60 inches: loam
C - 60 to 80 inches: loam

Properties and qualities

Slope: 25 to 35 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 25 percent

Gypsum, maximum in profile: 1 percent
Available water storage in profile: High (about 10.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Other vegetative classification: Not Suited (G103XS024MN)
Hydric soil rating: No

Description of Kilkenny

Setting

Landform: Escarpments on moraines
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Glaciofluvial sediments and reworked till over till

Typical profile

A - 0 to 7 inches: clay loam
Bt - 7 to 31 inches: clay loam
2Bk,2C - 31 to 80 inches: loam

Properties and qualities

Slope: 25 to 35 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 30 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 20 percent
Gypsum, maximum in profile: 1 percent
Available water storage in profile: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Other vegetative classification: Not Suited (G103XS024MN)
Hydric soil rating: No

Minor Components

Ridgeton

Percent of map unit: 10 percent
Landform: Escarpments on moraines
Landform position (two-dimensional): Footslope
Down-slope shape: Concave
Across-slope shape: Linear
Other vegetative classification: Sloping; Fine Texture (G103XS023MN)
Hydric soil rating: No

Derrynane

Percent of map unit: 5 percent
Landform: Toes on escarpments on moraines

Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Linear
Other vegetative classification: Level Swale, Neutral (G103XS001MN)
Hydric soil rating: Yes

Terril

Percent of map unit: 5 percent
Landform: Escarpments on moraines
Landform position (two-dimensional): Footslope
Down-slope shape: Concave
Across-slope shape: Linear
Other vegetative classification: Sloping Upland, Neutral (G103XS002MN)
Hydric soil rating: No

L49A—Klossner soils, depressional, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: gj6z
Mean annual precipitation: 23 to 35 inches
Mean annual air temperature: 43 to 50 degrees F
Frost-free period: 124 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Klossner, surface drained, and similar soils: 65 percent
Klossner, drained, and similar soils: 20 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Klossner, Surface Drained

Setting

Landform: Depressions on moraines
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Organic material over till

Typical profile

Oa - 0 to 26 inches: muck
2A1 - 26 to 33 inches: silt loam
2A2 - 33 to 40 inches: loam
2Cg - 40 to 80 inches: loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)

Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum in profile: 20 percent
Gypsum, maximum in profile: 1 percent
Available water storage in profile: Very high (about 17.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: B/D
Other vegetative classification: Not Suited (G103XS024MN)
Hydric soil rating: Yes

Description of Klossner, Drained

Setting

Landform: Depressions on moraines
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Organic material over till

Typical profile

Oap,Oa - 0 to 26 inches: muck
2A1 - 26 to 36 inches: mucky silty clay loam
2A2 - 36 to 48 inches: silty clay loam
2Cg - 48 to 80 inches: loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum in profile: 20 percent
Gypsum, maximum in profile: 1 percent
Available water storage in profile: Very high (about 17.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B/D
Other vegetative classification: Organic (G103XS014MN)
Hydric soil rating: Yes

Minor Components

Mineral soil, drained

Percent of map unit: 15 percent
Landform: Depressions on moraines
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Ponded If Not Drained (G103XS013MN)
Hydric soil rating: Yes

L50A—Muskego and Houghton soils, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2t3nt
Elevation: 690 to 1,840 feet
Mean annual precipitation: 24 to 37 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 140 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Muskego, surface drained, and similar soils: 45 percent
Houghton, ponded, and similar soils: 40 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Muskego, Surface Drained

Setting

Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Organic material over coprogenic material

Typical profile

Oap - 0 to 10 inches: muck
Oa - 10 to 28 inches: muck
Lco - 28 to 79 inches: coprogenous mucky silt loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum in profile: 80 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very high (about 17.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: C/D
Other vegetative classification: Organic (G103XS014MN)
Hydric soil rating: Yes

Description of Houghton, Ponded

Setting

Landform: Marshes
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Organic material

Typical profile

Oa1 - 0 to 9 inches: muck
Oa2 - 9 to 79 inches: muck

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 6.00 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very high (about 23.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Hydrologic Soil Group: A/D
Other vegetative classification: Not Suited (G103XS024MN)
Hydric soil rating: Yes

Minor Components

Klossner, drained

Percent of map unit: 10 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Other vegetative classification: Organic (G103XS014MN)
Hydric soil rating: Yes

Glencoe

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: Pothole Marsh (R103XY002MN)
Other vegetative classification: Ponded If Not Drained (G103XS013MN)
Hydric soil rating: Yes

L132A—Hamel-Glencoe complex, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2tsk3
Elevation: 690 to 1,840 feet
Mean annual precipitation: 24 to 37 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 140 to 180 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Hamel and similar soils: 55 percent
Glencoe and similar soils: 35 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hamel

Setting

Landform: Ground moraines
Landform position (three-dimensional): Dip
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Parent material: Fine-loamy colluvium over loamy till

Typical profile

Ap - 0 to 10 inches: loam
A - 10 to 24 inches: loam
Btg - 24 to 46 inches: clay loam
Cg - 46 to 79 inches: clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: About 0 to 8 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 20 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Other vegetative classification: Level Swale, Neutral (G103XS001MN)

Hydric soil rating: Yes

Description of Glencoe

Setting

Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Local alluvium over loamy till

Typical profile

Ap - 0 to 9 inches: clay loam
A - 9 to 39 inches: clay loam
Bg - 39 to 50 inches: clay loam
Cg - 50 to 79 inches: clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 2.00 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: Occasional
Calcium carbonate, maximum in profile: 20 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 11.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: Pothole Marsh (R103XY002MN)
Other vegetative classification: Ponded If Not Drained (G103XS013MN)
Hydric soil rating: Yes

Minor Components

Terril

Percent of map unit: 10 percent
Landform: Ground moraines
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Linear
Other vegetative classification: Sloping Upland, Neutral (G103XS002MN)
Hydric soil rating: No

U2A—Udorthents, wet substratum, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: glwg
Elevation: 660 to 1,640 feet
Mean annual precipitation: 27 to 33 inches
Mean annual air temperature: 39 to 46 degrees F
Frost-free period: 135 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents, wet substratum, and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents, Wet Substratum

Setting

Landform: Outwash plains, moraines, stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Variable soil material

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

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Appendix B

Joint Powers Agreement with PSC WMC, LGU Council Resolution

AMENDED AND RESTATED
JOINT POWERS AGREEMENT ESTABLISHING
THE PIONEER-SARAH CREEK WATERSHED MANAGEMENT COMMISSION

RECITALS

WHEREAS, on July 29, 1993, pursuant to statutory authority, the Cities of Corcoran, Greenfield, Independence, Loretto, Maple Plain, Medina and Minnetrista, the Town of Watertown, and the Hennepin Conservation District adopted a "Joint Powers Agreement to Protect and Manage the Pioneer-Sarah Creek Watersheds" (the "Joint Powers Agreement"); and

WHEREAS, in 2000 the City of Corcoran withdrew from the Agreement; and

WHEREAS, in 2001 the Town of Watertown withdrew from the Agreement; and

WHEREAS, the Cities of Greenfield, Independence, Loretto, Maple Plain, Medina and Minnetrista wish to amend and restate the Agreement's terms in this document.

NOW, THEREFORE, pursuant to the authority conferred upon the parties by Minn. Stat §§ 471.59 and 103B.201, et seq., the parties to this Agreement do mutually agree as follows:

SECTION ONE
DEFINITIONS

For purposes of this Agreement, each of the following terms, when used herein with an initial capital letter, will have the meaning ascribed to it as follows:

"Agreement" means the Joint Powers Agreement, as amended and restated in this document.

"Board" means the Board of Commissioners of the Commission.

"BWSR" means the Minnesota Board of Water and Soil Resources.

"Commissioner" means an individual appointed by a governmental unit to serve on the Board. The term Commissioner shall include both the representative and alternate representative appointed to serve on the Board.

"Pioneer-Sarah Creek Watershed" or "Watershed" means the area within the mapped area delineated on the map filed with BWSR, as may be amended. A complete legal description defining the boundary of the Pioneer-Sarah Creek Watershed is attached hereto and made apart hereof.

"Governmental Unit" means any signatory city or township,

"Member" means a governmental unit that enters into this Agreement.

"Watershed Management Organization ("WMO") means the organization created by this Agreement, the full name of which is "Pioneer-Sarah Creek Watershed Management Commission." The Commission shall be a public agency of its respective governmental units.

SECTION TWO
ESTABLISHMENT

The parties create and establish the Pioneer-Sarah Creek Watershed Management Commission. The Commission membership shall include the Cities of Greenfield, Independence, Loretto, Maple Plain, Medina and Minnetrista. In addition to other powers identified in this Agreement, the Commission shall have all of the authority for a joint powers watershed management organization identified in Minn, Stat. § 103B.211.

SECTION THREE
PURPOSE STATEMENT

The purpose of this Agreement is to establish an organization within the Pioneer-Sarah Creek Watershed to (a) protect, preserve, and use natural surface and groundwater storage and retention systems, (b) minimize public capital expenditures needed to correct flooding and water quality problems, (c) identify and plan for means to effectively protect and improve surface and groundwater quality, (d) establish more uniform local policies and official controls for surface and groundwater management, (e) prevent erosion of soil into surface water systems, (f) promote groundwater recharge, (g) protect and enhance fish and wildlife habitat and water recreational facilities, and (h) secure the other benefits associated with the proper management of surface and ground water, as identified in Minn. Stat. § 103B,201, including but not limited to aesthetic values when owned by the public or constituting public resources, as defined in Minn. Stat. Ch. 116B.

The Commission's Members agree to (a) provide a forum for exchanging information in the management of land use and land use techniques and control, (b) provide a forum for resolution of intergovernmental disputes relating to management and protection of the Pioneer-Sarah Creek Watershed;

and (c) cooperate on a united basis on behalf of all units of government within the Pioneer-Sarah Creek Watershed with all other levels of government for the purpose of facilitating natural resource protection and management in the Watershed.

SECTION FOUR
BOARD OF COMMISSIONERS

4.1. Appointment. The governing body of the Commission shall be its Board. Each Member shall be entitled to appoint one representative to serve on the Board and one alternate who may sit when the representative is not in attendance, and said representative or alternative representative shall be called a "Commissioner." It is expected that each Member ensure that its Commissioner will attend each meeting of the Board.

4.2. Term. Each Member shall determine the term length for its Commissioner's appointment to the Board. The representatives to the Commission shall serve at the pleasure of the governing body of the Member appointing such representative to the Commission. The Commission and its Members shall fill all Board vacancies pursuant to Minn. Stat. § 103B.227, subd. 1 and 2, as may be amended from time to time.

4.3. Compensation. Commissioners shall serve without compensation from the Commission, but this shall not prevent a Member from providing compensation to its Commissioner for serving on the Board.

4.4. Officers. No later than the first meeting in February of each year, the Commission shall elect from its membership a chairperson, a vice-chairperson, a treasurer and a secretary and such other officers as it deems necessary to reasonably carry out the purposes of this Agreement. No Commissioner may be elected to more than one office. All officers shall hold office for terms of one year and until their successors have been elected by the Commission. An officer may be reelected to the same office for unlimited terms. A vacancy in an office shall be filled from the Board membership by election for the remainder of the unexpired term of such office. The officers' duties include the following:

A. Chairperson. The Chairperson shall preside at all Board meetings and shall have all the same privileges of discussion, making motions and voting, as do other

Commissioners. The Chairperson may delegate certain responsibilities to the Executive Secretary as necessary to carry out the duties of the office.

B. Vice-Chairperson. The Vice-Chairperson shall, in the absence or disability of the Chairperson, perform the duties and exercise the powers of the Chairperson.

C. Treasurer. The Treasurer shall have the custody of the funds and securities of the Commission and shall keep full and accurate accounts of receipts and disbursements in books belonging to the Commission and shall deposit all monies and other valuable effects in the name and to the credit of the Commission in such depository as may be designated by the Commission. He/she shall disburse funds of the Commission as approved by the Commission and shall render to the Commission at regular meetings, or as the Board may request, an account of all his/her transactions as Treasurer and of the financial condition of the Commission. The Treasurer may delegate certain duties to the Executive Secretary as necessary to carry out the duties of the office.

D. Secretary. The Secretary shall attend all Board meetings, shall act as clerk of such meetings, and shall record all votes and the minutes of all proceedings. He/she shall give notice of all Board meetings. The Secretary may delegate certain duties to the Executive Secretary as necessary to carry out the duties of the office.

4.5. Executive Secretary. The Commission may appoint an Executive Secretary to coordinate activities of the Commission, accept delegated duties by the Commission officers, and accept business duties not assigned to officers. All notices to the Commission shall be delivered or served at the office of the Executive Secretary.

4.6. Quorum and Voting. A majority of all Commissioners with voting privileges shall constitute a quorum. Once a quorum is present, a majority vote is required for approval on an action, unless as provided otherwise in this Agreement.

4.7. Meetings. The Board shall schedule meetings at least quarterly (every three months) on a uniform day and place selected by the Commission. Written notice of the location and time of all Commission meetings shall be sent to all Commission representatives and alternate representatives and to the Clerk of each Member. Special meetings may be held at the call of the Chairperson or by any three Commissioners by giving not less than 72 hours written notice of the time, place and purpose of such meeting.

SECTION FIVE
COMMISSION POWERS AND DUTIES

5.1. Watershed Management Plan. The Commission shall develop a watershed management plan including a capital improvement program in conformance with Minn. Stat. § 103B.231. The Commission shall adopt the plan within 120 days after BWSR's approval of the plan. After adoption, the Commission shall implement the watershed management plan and enforce the regulations set out in the plan. A copy of the adopted plan shall be filed with the clerk of each Member governmental unit.

5.2. Local Water Management Plans. The Commission shall review Members' local water management plans as required by Minn, Stat. § 103B.235, subd. 3.

5.3. Review Services.

A. Where the Commission is authorized or requested to review and make recommendations on any matter, the Commission may charge a reasonable fee for such review services. The Commission's standard fee schedule, as amended from time to time, will be a part of the Commission's Rules.

B. The Commission may charge an additional fee when it determines that a particular project will require extraordinary and substantial review services. Before undertaking such review services, the Commission shall provide the party to be charged the additional fee with written notice of the services to be performed and the additional fee therefor. Unless said party objects within 5 business days of receipt of such written notice to the amount of the additional fee to be charged, such review services shall be performed and the party shall be responsible for the cost thereof. If said party objects to the proposed additional fee for such services within 5 business days and the party and the Commission are unable to agree on a reasonable alternative amount for review services, such extraordinary and substantial review services shall not be undertaken by the Commission.

The Members recognize that from time to time the Commission provides review services regarding a violation under the Minnesota Wetland Conservation Act, and that there currently is no statutory mechanism in place that allows the Commission to recover its costs from the wetland violator

for these review services. Therefore, when the Commission provides review services regarding a violation under the Minnesota Wetland Conservation Act, the Commission may seek reimbursement for these services from the Member where the subject property is located.

C. Upon request of any Member, the Commission shall review and evaluate any dispute between the Member and other unit(s) of government regarding land use and natural resource protection and management.

5.4 Public Participation.

A. Technical Advisory Committee. A Technical Advisory Committee ("TAC") to the Commission is hereby created. TAC members and one or more alternate members shall be appointed by the governing body of each Member. TAC members may be, but need not be, Commissioners. TAC members shall serve at the pleasure of the governing body of each Member that appoints them and are not required to meet statutory qualifications for Commissioners. TAC members will undertake projects/tasks as requested or assigned to the TAC by the Commission and may participate in meetings of the Commission pertaining to those assigned projects/tasks.

B. Citizen Advisory Committee. If a need is determined by the Commission, the Commission will establish a Citizen Advisory Committee to the Commission, particularly to review and comment on specific projects undertaken by the Commission pursuant to the Watershed Management Plan.

5.5. Rules. The Commission shall adopt rules for (a) conducting its business, including but not limited to additional duties of the Commission's officers, (b) the scope of responsibilities of the Technical Advisory Committee and the Citizen Advisory Committee, if one is established, and (c) preparing the annual work plan.

5.6. Contracts. The Commission may make such contracts, and enter into any such agreements, as it deems necessary to make effective any power granted to it by this Agreement. No Commissioner shall receive a direct financial benefit from any contract made by the Commission. Every contract for the purchase or sale of merchandise, materials or equipment by the Commission shall be let in

accordance with the Uniform Municipal Contracting Law (Minn. Stat. § 47L345) and the Joint Exercise of Powers statute (Minn. Stat. § 47L59). In accordance with Minn. Stat. § 471.59, subd. 3, contracts let and purchases made under this Agreement shall conform to the statutory requirements applicable to the Member cities with a population over 2,500.

5.7. Employment. The Commission may contract for services, may use staff of other governmental agencies, may use staff of the Members and may employ such other persons as it deems necessary. Where staff services of a Member are utilized, such services shall not reduce the financial contribution of such Member to the Commission's operating fund unless utilization of staff service is substantial and the Commission so authorizes.

5.8. Public/Private Organizations. The Commission may cooperate or contract with the State of Minnesota or any subdivision thereof or federal agency or private or public organization to accomplish the purposes for which it is organized.

5.9. Annual Financial, Activity and Audit Reports; Newsletter. The Commission shall submit to its Members and BWSR a financial report, an activity report and an audit report for the preceding fiscal year, in compliance with state law. The Commission shall publish and distribute an annual newsletter in compliance with state law. The Commission shall transmit to the clerk of each Member copies of the reports/newsletter in a format ready for publication. Each Member shall publish/distribute the reports/newsletter as it deems necessary. All of the Commission's books, reports and records shall be available for and open to examination by any Member at all reasonable times.

5.10. Gifts, Grant, Loans. The Commission may, within the scope of this Agreement, accept gifts, apply for and use grants or loans of money or other property from the United States, the State of Minnesota, a unit of government or other governmental unit or organization, or any person or entity for the purposes described herein; may enter into any reasonable agreement required in connection therewith; may comply with any laws or regulations applicable thereto; and may hold, use and dispose of such money or property in accordance with the terms of the gift, grant, loan or agreement relating thereto.

5.11. Boundary Change in the Pioneer-Sarah Creek Watershed.

A. Enlargement. Proceedings for the enlargement of the Pioneer-Sarah Creek Watershed shall be initiated by a request from affected Member(s) to the Commission, or as mandated by law. Such request should include a map and legal description of the affected area. In reviewing such a request, the Commission should consider, among other things, (a) whether the affected area is contiguous to the existing Pioneer-Sarah Creek Watershed, (b) whether the affected area can be feasibly administered by the Commission; and (c) the reasons why it would be conducive to the public health and welfare to add the area to the existing Pioneer-Sarah Creek Watershed. Upon deliberation, if it appears to the Commission that the enlargement of the Watershed as requested would be for the public welfare and public interest and the purpose of resource management would be served, or that in fact the enlargement is mandated by law, the Commission shall by its findings and order enlarge the Pioneer-Sarah Creek Watershed and file a copy of said findings and order with the appropriate governmental offices.

B. Transfer of Territory. Proceedings to transfer territory that is within the Pioneer-Sarah Creek Watershed to the jurisdiction of another watershed management organization or a watershed district shall be initiated by a request from affected Member(s) to the Commission, or as mandated by law. Such request should include a map and legal description of the affected area. Upon deliberation, if it appears to the Commission that the transfer of territory as requested would be for the public welfare and public interest and the purpose of resource management would be served, the Commission shall by its findings and order change the Pioneer-Sarah Creek Watershed boundaries accordingly and file a copy of said findings and order with the appropriate governmental offices.

5.12. Subdistricts. The Commission may define and designate drainage subdistricts within the Watershed and shall have authority to separate the Watershed into such different subdistricts and to allocate capital improvement costs to a subdistrict area if that subdistrict is the only area that materially benefits from the capital improvement.

5.13. Monitor Water Quality. In connection with its water management plan, the Commission will establish a comprehensive water quality-monitoring plan for lakes and streams within the Watershed.

The Commission will also establish goals for judging the adequacy of its water quality protection programs.

5.14 Ratification. The Commission may, and where required by this Agreement shall, refer matters to the governing bodies of the Members for ratification. Within 60 days, the governing bodies of the Members shall take action upon any matter referred for ratification.

5.15. Statutory Powers. The Commission may exercise all other powers necessary and incidental to the implementation of the purposes and powers set forth herein and as outlined and authorized by Minn. Stat. §§ 103B.201, et seq,

SECTION SIX
FINANCIAL MATTERS

6.1. Depositories/Disbursements. The Commission may collect and receive money and services subject to the provisions of this Agreement from the parties and from any other sources approved by the Commission and it may incur expenses and make expenditures and disbursements necessary and incidental to the effectuation of the purposes of this Agreement. The Board shall designate a national, state, or private bank or banks as a depository of Commission funds, Funds may be expended by the Commission in accordance with procedures established herein. Orders, checks and drafts shall be signed by two officers.

6.2. General Administration. Each voting Member agrees to contribute each year to a general fund to be used for general administration purposes including, but not limited to, salaries, rent, supplies, development on an overall plan, insurance, bonds, and to purchase and maintain devices to measure hydrological and water quality data. The funds may also be used for normal maintenance of facilities and capital improvements. The annual contribution by each voting Member shall be based on its share of the taxable market value of all real property within the Watershed.

6.3. Budget Approval and Appeal Process. On or before July 1 of each year, the Board shall adopt a budget for the following calendar year for the purpose of providing funds to conduct the Commission's business in accordance with its annual work plan, Budget approval shall require a

majority vote of all Commissioners eligible to vote. At least 45 days before each Member governmental unit must certify its levy to Hennepin County, the Commission shall certify the budget to the clerk of each Member governmental unit together with a statement of the proportion of the budget to be provided by each Member. The schedule of payments by the Members shall be determined by the Board in such a manner as to provide for an orderly collection of the funds needed.

The governing body of each Member agrees to review the budget, and the Board shall upon notice from any Member received prior to August 15, hear objections to the budget, and may amend the budget (except the fee due cannot be increased), and then give notice to the Members of any and all modifications or amendments.

SECTION SEVEN
CAPITAL IMPROVEMENT PROGRAM

7.1. Assessments. If a capital improvement ordered by the Commission may result in payment from any Member, or if a capital improvement ordered by the Commission may result in a levy by a Member against privately or publicly owned land within the Watershed, said capital improvement shall follow the statutory procedure outlined in Minn. Stat. Ch, 429, except as herein modified.

7.2. Preliminary Reports/Public Hearings. For those improvements initiated by the Commission or so designated in the Commission's watershed management plan to be constructed by the Board, the Board shall secure from its engineers or some other competent person a preliminary report advising it whether the proposed improvement is feasible and as to whether it shall best be made as proposed or in connection with some other improvement and the estimated cost of the improvement as recommended.

The Board shall then hold a public hearing on the proposed improvement after mailed notice to the clerk of each Member governmental unit within the Watershed. The Commission shall not be required to mail or publish notice except by said notice to the clerk, Said notice shall be mailed not less than 45 days before the hearing, shall state the time and place of the hearing, the general nature of the improvement, the estimated total cost and the estimated cost to each Member governmental unit. The

Board may adjourn said hearing to obtain further information, may continue said hearing pending action of the Member governmental units or may take such other action as it deems necessary to carry out the purpose of this Commission.

A resolution setting forth the order for a capital improvement project shall require a favorable vote by (a) at least two-thirds of all Commissioners eligible to vote, and (b) all Commissioners representing Members who will directly benefit from the project. In all cases other than to order a capital improvement project, a majority vote of all Commissioners eligible to vote shall be sufficient to adopt an action. The order shall describe the improvement, shall allocate in percentages the cost between the Member governmental units, shall designate the engineers to prepare plans and specifications, and shall designate the Member who will contract for the improvement.

After the Board has ordered the improvement or if the hearing is continued while the Member governmental units act on said proposal, it shall forward said preliminary report to all Member governmental units with an estimated time schedule for the construction of said improvement. The Board shall allow an adequate amount of time, and in no event less than 45 days, for each Member governmental unit to conduct hearings, in accordance with the provisions of the aforestated Chapter 429 or the charter requirements of any Member city, or to ascertain the method of financing which said Member governmental unit will utilize to pay its proportionate share of the costs of the improvement. Each Member governmental unit shall ascertain within a period of 90 days the method it shall use to pay its proportionate share of the costs.

If the Commission proposes to use Hennepin County's bonding authority as set forth in Minn. Stat. § 103B.251, or if the Commission proposes to certify all or any part of a capital improvement to Hennepin County for payment, then and in that event all proceedings shall be carried out in accordance with the provisions set forth in said Section 103B,251.

The Board shall not order and no engineer shall prepare plans and specifications before the Board has adopted a resolution ordering the improvement. The Board may direct one of its Members to prepare plans and specifications and order the advertising for bids upon receipt of notice from each Member

governmental unit who will be assessed that it has completed its hearing or determined its method of payment or upon expiration of 90 days after the mailing of the preliminary report to the Members.

7.3. Appeals/Arbitration. Any Member governmental unit being aggrieved by the Board's determination as to the cost allocation of said capital improvement shall have 30 days after the Commission resolution ordering the improvement to appeal said determination. Said appeal shall be in writing and shall be addressed to the Board asking for arbitration, The determination of the Member's appeal shall be referred to a Board of Arbitration. The Board of Arbitration shall consist of three persons; one to be appointed by the Board of Commissioners, one to be appointed by the appealing Member governmental unit, and the third to be appointed by the two so selected. In the event the two persons so selected do no appoint the third person within 15 days after their appointment, then the Chief Judge of the Hennepin County District Court shall have jurisdiction to appoint, upon application of either or both of the two earlier selected, the third person to the Board of Arbitration. The third person selected shall not be a resident of any Member governmental unit and if appointed by the Chief Judge said person shall be a person knowledgeable in the subject matter. The arbitrators' expenses and fees, together with the other expenses, not including attorney fees, incurred in the conduct of the arbitration shall be divided equally between the Commission and the appealing Member, Arbitration shall be conducted in accordance with the Uniform Arbitration Act, Minn, Stat. Ch. 572,

7.4. Contracts for Capital Improvements. All contracts which are to be let as a result of the Board ordering a capital improvement, and for which two or more Member governmental units shall be responsible for the costs, shall be let in accordance with the provisions of Minn. Stat, § 429.041. The bidding and contracting of said work shall be let by any one of the Member governmental units, as ordered by the Board, after compliance with the statutory requirements. Contracts and bidding procedures shall comply with the legal requirements applicable to statutory cities.

The Commission shall not have the authority to contract in its own name for any improvement work for which a special assessment will be levied against any private or public property under the provisions of Chapter 429 or under the provisions of any Member city charter. These contracts shall be

awarded by action of the governing body of a Member and shall be in the name of a Member governmental unit. This section does not preclude the Commission from proceeding under Minn. Stat. § 103B.251.

7.5. Contracts with Other Governmental Bodies. The Commission may exercise the powers set forth in Section 7.4 but said contracts for a capital improvement shall require a majority vote of all Commissioners eligible to vote.

7.6. Supervision, All improvement contracts shall be supervised by the entity awarding the contract. The Commission staff shall also be authorized to observe and review the work in progress and the Members agree to cooperate with the Commission staff in accomplishing its purposes. Representatives of the WMO shall have the right to enter upon the place or places where the improvement work is in progress for the purpose of making reasonable tests and inspections, The Commission staff shall report and advise and recommend to the Board on the progress of the work,

7.7. Land Acquisition. The Commission shall not have the power of eminent domain and shall not own any interest in real property. All interests in lands shall be held in the name of the Member wherein said lands are located.

7.8. Capital Improvement Fund. The Commission shall establish an improvement fund or funding mechanism for each capital improvement project. The Commission may fund all or part of the cost of a capital improvement contained in the capital improvement program of the plan in accordance with Minn. Stat. § 103B.251, The Commission and Hennepin County may establish a maintenance fund to be used for normal and routine maintenance of an improvement constructed in whole or in part with money provided by Hennepin County pursuant to Minn, Stat, § 103B.251. The levy and collection of an ad valorem tax levy for an improvement, payment of bonds, or maintenance shall be by Hennepin County based upon a tax levy resolution adopted by a majority vote of all eligible Members of the Board and remitted to the County on or before the date prescribed by law each year. If it is determined to levy for maintenance, the Commission shall be required to follow the hearing process established by Minn. Stat.

Ch. 103D. Mailed notice shall also be sent to the clerk of each Member governmental unit at least 30 days before the hearing.

7.9. Capital Improvement Cost Allocation.

A. All costs of improvements designated in the Board's adopted watershed management plan for construction by the Board, which the Board determines will benefit only one Member, shall be paid for entirely by that Member.

B. All costs of improvements designated in the Board's adopted watershed management plan for construction by the Board, which the Board determines benefit more than one Member, shall be apportioned by the Board by the following bases:

(1) A negotiated amount to be arrived at by the Members who have lands in the subdistrict responsible for the capital improvement; or

(2) On the basis of each Member's share of the taxable market value of all real property within the Watershed; or

(3) Capital costs allocated under option (2) above may be varied by the Commission by a favorable vote by (a) at least two-thirds of all Commissioners eligible to vote and (b) all Commissioners representing Members who will directly benefit from the project, if (i) any Member community receives a direct benefit from the capital improvement which benefit can be defined as a lateral as well as a trunk benefit, or (ii) the capital improvement provides a direct benefit to one or more Members which benefit is so disproportionate as to require in a sense of fairness a modification in the formula.

C. If the project is constructed and financed pursuant to Minnesota Statutes 103B.251, the Members understand and agree that said costs will be levied on all taxable property in the watershed as set forth in the statute.

SECTION EIGHT
WITHDRAWAL FROM AGREEMENT

Withdrawal of any Member may be accomplished by filing written notice with the Commission and the other Members 60 days before the effective date of withdrawal. No Member may withdraw from this Agreement until the withdrawing Member has met its full financial obligations for the year of withdrawal and prior years.

SECTION NINE
DISSOLUTION OF COMMISSION

9.1. This Agreement may be terminated upon the unanimous consent of the parties. If the Agreement is to be terminated, a notice of the intent to dissolve the Commission shall be sent to Hennepin County and BWSR at least 90 days before the date of dissolution.

9.2. In addition to the manner provided in Section 9.1 for termination, any Member may petition the Commission's Board to dissolve the Commission. Upon 90 days notice in writing to the clerk of each member governmental unit and to Hennepin County and BWSR, the Board shall hold a hearing and upon a majority vote of all Commissioners eligible to vote, the Board may by Resolution recommend that the Commission be dissolved. Said Resolution shall be submitted to each Member governmental unit and if ratified by three-fourths of the governing bodies of all eligible Members within 60 days, said Board shall dissolve the Commission allowing a reasonable time to complete work in progress and to dispose of personal property owned by the Commission.

9.3. Winding Up. Upon dissolution, all personal property of the Commission shall be sold and the proceeds thereof, together with monies on hand after payment of all obligations, shall be distributed to the Members. Such distribution of Commission assets shall be made in approximate proportion to the total contributions to the Commission for such costs made by each Member, All payments due and owing for operating costs under Section 6.2, or other unfilled financial obligations, shall continue to be the lawful obligation of the Members. In no event may this Agreement be terminated until all of the planning and plan implementation provisions of the Act, which are required of a watershed management organization, have been completed.

SECTION TEN
MISCELLANEOUS PROVISIONS

10.1. Special Assessments. The Commission shall not have the power to levy a special assessment upon any privately or publicly owned land. All such assessments shall be levied by the Member wherein said lands are located. The Commission shall have the power to require any Member to contribute the costs allocated or assessed according to the other provisions of this agreement.

10.2. Member's Construction Projects that Will Affect Pioneer-Sarah Creek. Each Member agrees that it will not directly or indirectly collect or divert any additional surface water to or from Pioneer-Sarah Creek or its tributaries without approval from the Commission. Such approval may be granted by the Commission for a Member to proceed with the construction or reconstruction of improvements within the individual corporate Member's boundaries and at said Member's sole cost upon a finding (a) that there is an adequate outlet, (b) that said construction is in conformance with the overall plan, and (c) that the construction will not adversely affect other Members.

10.3. Member Vote Suspension for Failure to Contribute. Any Member who is more than 60 days in default in contributing its proportionate share to the general fund shall have the vote of its Board representative suspended pending the payment of its proportionate share. Any Member who is more than 60 days in default in contributing its proportionate share of the cost of any improvement to the contracting Member shall upon request of the contracting Member have the vote of its Board representative suspended, pending the payment of its proportionate share, Any Member whose Board representative vote is under suspension shall not be considered as an eligible Member as such membership affects the number of votes required to proceed on any matter under consideration by the Board.

10.4. Amendment. The Commission may recommend changes and amendments to this Agreement to the Members. Amendments shall be acted upon by the Members within 90 days of referral. Amendments shall be evidenced by appropriate resolutions of the Members filed with the Commission and shall, if no effective date is contained in the amendment, become effective as of the date all such filings have been completed.

10.5. Termination of Prior Agreement. By executing this document, the parties hereby agree to terminate the prior joint powers agreement, adopted July 29, 1993.

10.6. Counterparts. This Agreement and any amendment may be executed in several counterparts and all so executed shall constitute one Agreement or amendment, binding on all of the parties hereto notwithstanding that all of the parties are not signatory to the original or the same counterpart.

10.7. Effective Date. This Agreement shall be in full force and effect when all governmental units delineated in Section 2 have executed this Agreement. All Members need not sign the same copy.

10.8. Duration. This Agreement shall have an unlimited duration.

10.9. Statutory References. All statutory references include all future amendments.

CITY OF GREENFIELD

By: Thomas J Swanson
Its Mayor

Attest: Krista Okerman
Its City Clerk

Dated: 8/17/04

CITY OF INDEPENDENCE

By: Louis D Johnson
Its Mayor

Attest: Lori Hunt
Its City Clerk

Dated: 2-24-04

CITY OF LORETTO

By: Kenneth C Tree
Its Mayor

Attest: Kelly Sprinnell
Its City Clerk

Dated: 3/9/2004

CITY OF MAPLE PLAIN

By: Jack Vigen
Its Mayor

Attest: Dennis J Anderson
Its City Clerk

Dated: 3/23/04

CITY OF MEDINA

By: _____
Its Mayor

Dated: 3-16-04

Attest: _____
Its City Clerk

CITY OF MINNETRISTA

By: _____
Its Mayor

Dated: 3/15/04

Attest: _____
Its City Clerk

J:\CLIENTS\P\PIONEER\JPA\JPARevisions082103.DOC

CITY OF LORETTO

Date NOVEMBER 3, 1993 Resolution # 93-27

Motion by Councilmember: VETSCH

Seconded by Councilmember: SPURZEM

The Loretto City Council adopted Resolution #93-27 requesting the Pioneer Sarah Creek Watershed Management Commission administer the Wetlands Conservation Act of 1991 within its incorporated boundaries that are also within the Pioneer Sarah Creek Watershed

	YES	NO
Van Beusekom	X	
Vetsch	X	
Underhill	X	
Schmidt	Absent	
Spurzem	X	

STATE OF MINNESOTA, HENNEPIN COUNTY

I, Judy Thunberg, duly appointed, qualified, and acting Clerk to the Council for the City of Loretto, County of Hennepin, State of Minnesota, so hereby certify that I have compared the foregoing copy of a resolution or motion with the original minutes of the proceeding of the Loretto City Council, Loretto, Minnesota, at their session held on the 3rd day of November, 1993, NOW on file in my office and have found the same to be true and correct copy thereof.

Witness my hand and official seal at Loretto, Minnesota, the 3rd day of November, 1993

Judy Thunberg

Judy Thunberg, Clerk
City of Loretto

RESOLUTION

ADMINISTRATION OF MINNESOTA WETLANDS

CONSERVATION ACT OF 1991

WHEREAS, the Wetlands Conservation Act of 1991 places restrictions on activities affecting certain wetlands as of January 1, 1991, and

WHEREAS, local governmental units are mandated to administer or provide for administration of the Act within their jurisdictions and,

WHEREAS, without local administration, any draining, filling or burning of wetlands are prohibited and,

WHEREAS, administration of the Act will involve the creation of a wetland technical review panel, permitting process, and provision for prosecution of violations, all creating additional expense for the city and,

WHEREAS, the Pioneer-Sarah Creek Watershed Management Commission will, by agreement, administer the Act within the city.

NOW, THEREFORE BE IT RESOLVED, that the City of LORETTO hereby requests the Pioneer-Sarah Creek Watershed Management Commission administer the Wetlands Conservation Act of 1991 within its incorporated boundaries that are also within the Pioneer-Sarah Creek Watershed.

[signature] Van Beusekom
Mayor

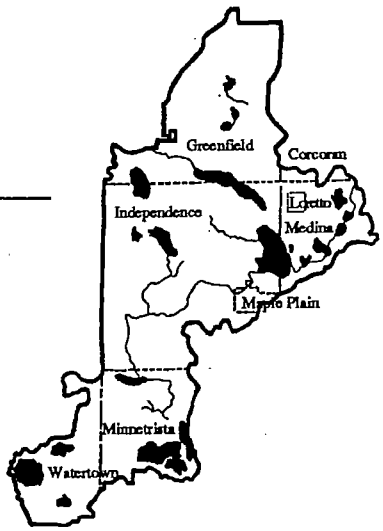
11-3-93
Date

ATTEST: Judy Thunberg

Title: City Clerk

Date: 11-3-93

Pioneer-Sarah Creek
Watershed Management Commission



October 6, 1993

Ms. Judy Thunberg, Clerk
City of Loretto
P.O. Box 207
Loretto, Minnesota 55357

Dear Ms. Thunberg:

Enclosed is an example resolution designating the Pioneer-Sarah Creek Watershed Management Commission (Commission) as the local governmental unit (LGU) responsible for administering the rules of the Wetland Conservation Act (WCA). The Commission adopted the permanent rules of the WCA at its July 29, 1993 meeting. The Commission has acted as LGU for your City under the interim rules at your request. The resolution is needed as a record of officially designating the Commission as LGU.

Please present this resolution to your City Council for adoption. If you have any questions please contact Carolyn Dindorf at 544-8572.

Sincerely,

Carolyn Dindorf

for Jack Vigoren
Chairman

10801 Wayzata Boulevard, Suite 240 Minnetonka, Minnesota 55305 Telephone (612) 544-8572

Appendix C

NPDES Permit for WWTP, Application Complete Enough for Processing Notification

Minnesota Pollution Control Agency
520 Lafayette Road North | St. Paul, MN 55155-4194 | 651-296-6300 | 800-657-3864 | 651-282-5332 TTY | www.pca.state.mn.us

December 8, 2010

The Honorable Barry Andersen
Mayor, City of Loretto
PO Box 207
Loretto, MN 55357-0207

RE: Final Reissued NPDES/SDS Permit No. MN0023990
Loretto Wastewater Treatment Facility
T118N, R23W, Section 7, Loretto, Hennepin County, Minnesota

Dear Mayor Andersen:

Enclosed is the final National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) permit for your Facility. This permit supersedes an earlier NPDES/SDS permit that was issued on August 17, 2005. All comments submitted in writing during the public notice comment period have been considered in the formulation of the terms and conditions of the permit.

The comments submitted by the city of Loretto on September 30, 2010, included recommendations for language changes in the Chapter 1 - Special Requirements section of the permit including an alternate approach to address the TMDL requirements. In the October 25, 2010, meeting, at the city of Loretto (City), the terms and conditions of the permit were discussed and several revisions of the language in Chapter 1. Special Requirements were exchanged and reviewed by Minnesota Pollution Control Agency staff, the City and the City's technical consultant. This permit includes the final language reviewed and agreed upon.

It is the responsibility of the Permittee to maintain compliance with all of the terms and conditions of this permit. Please carefully review the entire permit. A "Submittals Checklist" that is specific for your facility is also enclosed for your use. You may find this checklist to be a convenient tool in tracking the due dates and status of submittals required by the final issued permit. Not all requirements are on this checklist so please review your permit in its entirety to ensure that all requirements are recognized.

Special attention should be directed to the following:

Chapter 1: Special Requirements

This Permit includes requirements for the Permittee to develop and submit a plan, implementation schedule and annual report that outlines how the City will work to achieve a phosphorus waste load allocation of zero by 2017 through a regional sanitary sewer connection and discontinued use of the local wastewater treatment facility.

Inflow and Infiltration (I/I)
The Facility is required to manage their inflow and infiltration in this permit. This includes the submittal of an I/I Identification and Reduction Plan (Plan) by 365 days after permit issuance. By 180 days after submittal of this plan the Permittee shall commence implementation of the items outlined in the Plan. The Permittee shall submit an annual I/I report that includes information on I/I work completed that year and the planned I/I improvements for the following year. Please review this chapter for additional information. on these requirements.

Chapter 7: Phosphorus Management Plan

The Permittee is required to prepare a Phosphorus Management Plan (PMP) and submit it to the MPCA within 180 days of permit expiration. In the past the Permittee was not required to submit a PMP but due to the phosphorus reductions necessary for the Lake Independence TMDL the Permittee must review possible phosphorus reductions that are achievable in the wastewater influent. While the PMP does not require specific reductions at this time, the MPCA strongly encourages you to identify and eliminate/reduce sources of phosphorus to, and improve phosphorus management within, your wastewater treatment facility. However, you should be aware that new or expanding discharges may be required to actively manage and reduce phosphorus, including complying with new or more restrictive phosphorus effluent limits. Please review these permit requirements carefully.

Guidance for considering phosphorus in your wastewater treatment system and preparing a PMP can be found on the Web at: http://www.pca.state.mn.us/water/pmp.html or http://mntap.umn.edu/potw/phosphorusresources.htm.

Questions about your permit should be directed to the appropriate staff contacts listed on the first page of your permit.

Sincerely,

Bill Priebe. P.E., Supervisor
Municipal Wastewater Section
Municipal Division

BP/CW:lmg

Enclosures: Final Permit

cc: Cindy Patnode, City Clerk, City of Loretto
Richard Arens, Operator, City of Loretto
Jeff Leuer, Public Works Director, City of Loretto
Ted Field, TKDA

STATE OF MINNESOTA

Minnesota Pollution Control Agency

Municipal Division

National Pollutant Discharge Elimination System (NPDES)/
State Disposal System (SDS) Permit MN0023990

PERMITTEE:	City of Loretto
FACILITY NAME:	Loretto Wastewater Treatment Facility
RECEIVING WATER:	Unnamed wetland (Class 2D, 3D, 4C, 5, 6 water)

CITY:	Loretto	**COUNTY:**	Hennepin
ISSUANCE DATE:	**December 8, 2010**	**EXPIRATION DATE:**	**November 30, 2015**

The state of Minnesota, on behalf of its citizens through the Minnesota Pollution Control Agency (MPCA), authorizes the Permittee to operate a disposal system at the facility named above and to discharge from this facility to the receiving water named above, in accordance with the requirements of this permit.

The goal of this permit is to protect water quality in accordance with Minnesota and U.S. statutes and rules, including Minn. Stat. chs. 115 and 116, Minn. R. chs. 7001, 7049, 7050, 7053, 7060, and the U.S. Clean Water Act.

This permit is effective on the issuance date identified above, and supersedes the previous permit that was issued for this facility on August 17, 2005. This permit expires at midnight on the expiration date identified above.

Signature: Bill Priebe

Bill D. Priebe, P.E., Supervisor *for* The Minnesota Pollution Control Agency
Metro Regional and Infrastructure Financing Unit
Municipal Wastewater Section
Municipal Division

Submit DMRs to:
Attention: Discharge Monitoring Reports
Minnesota Pollution Control Agency
520 Lafayette Rd N
St Paul, MN 55155-4194

Submit Other WQ Reports to:
Attention: WQ Submittals Center
Minnesota Pollution Control Agency
520 Lafayette Rd N
St Paul, MN 55155-4194

Questions on this permit?

- For DMR and other permit reporting issues, contact: Linda Brooks, 651-757-2246.
- For specific permit requirements or permit compliance status, contact: Charly Wojtysiak, 651-757-2831.
- General permit or NPDES program questions, contact: MPCA, 651-282-6143 or 1-800-657-3938.

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Facility Description

The Loretto Wastewater Treatment Facility (Facility) is located at NE 1/4 of NE 1/4 of Section 7, Township 118 North, Range 23 West, Loretto, Hennepin County, Minnesota. This is a Class C facility.

The application and plans indicate that the existing treatment system consists of approximately 9,300 feet of 8-inch to 10-inch force main, one comminutor, two aerated pond cells, one seepage basin, and phosphorus removal equipment. This is a Class C Facility.

The Facility has a controlled discharge (SD-001) to a slough to an unnamed wetland (Class 2D, 3D, 4C, 5, 6 Water) and is designed to treat an average wet weather design flow of 61,000 gallons per day with a 5-day biochemical oxygen demand (BOD_5) strength of 250 milligrams per liter (mg/L). The two aerated cells have a surface area of one acre each and an operating depth of 10 feet, providing a detention time of 40 days. The seepage basin has a surface area of 4.9 acres. The total system has a detention time of 180 days. Average influent flows over the past 12 months are reported to be 36,000 gallons per day.

There are no designed bypass or overflow points known to exist in the disposal system.

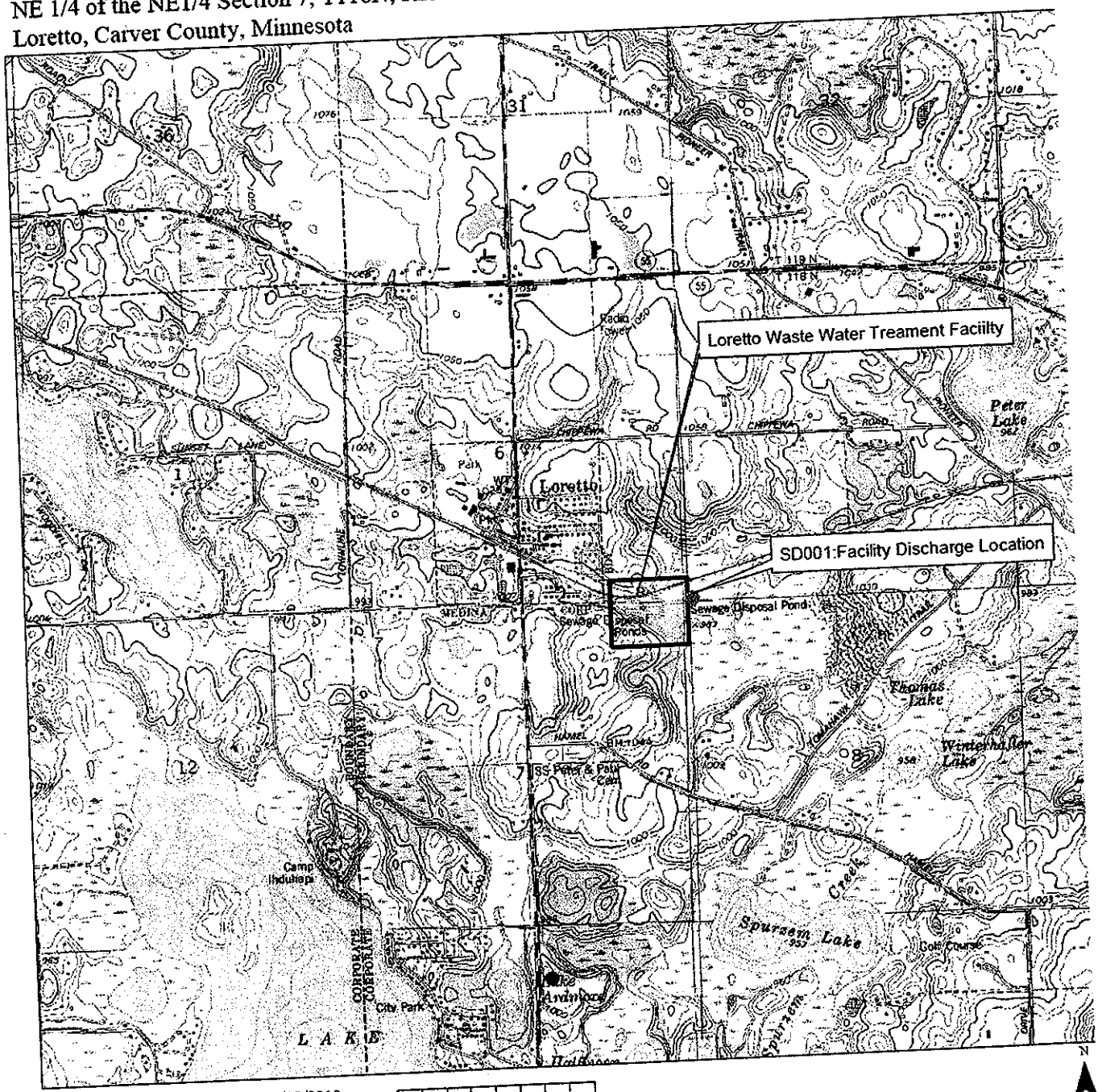
In accordance with Minnesota Pollution Control Agency rules regarding nondegradation for all waters that are not Outstanding Resource Value Waters (ORVW), nondegradation review is required for any new or expanded significant discharge (Minn. R. 7050.0185). A significant discharge is (1) a new discharge (not in existence before January 1, 1988) that is greater than 200,000 gallons per day to any water other than a Class 7 water or (2) an expanded discharge that expands by greater than 200,000 gallons per day that discharges to any water other than a Class 7 water or (3) a new or expanded discharge containing any toxic pollutant at a mass loading rate likely to increase the concentration of the toxicant in the receiving water by greater than one percent over the baseline quality. The flow rate used to determine significance is the design average wet weather flow. The January 1, 1988, design average wet weather flow for this Facility is 0.061 mgd.

This permit also complies with Minn. R. 7053.0275 regarding anti-backsliding.

Any point source discharger of sewage, industrial, or other wastes for which a National Pollutant Discharge Elimination System permit has been issued by the agency that contains effluent limits more stringent than those that would be established by parts 7053.0215 to 7053.0265 shall continue to meet the effluent limits established by the permit, unless the Permittee establishes that less stringent effluent limits are allowable pursuant to federal law, under section 402(o) of the Clean Water Act, United States Code, title 33, section 1342.

Topographic Map of Permitted Facility

MN0023990 City of Loretto Wastewater Treatment Plant
NE 1/4 of the NE1/4 Section 7, T118N, R23W
Loretto, Carver County, Minnesota



Map produced by: MPCA Staff, 2/18/2010
Source: USGS Rockford Quad
Scale:25,000

0 0.15 0.3 0.6 Miles

Loretto Wastewater Treatment Facility
Summary of Stations

Surface Discharge Stations

Station	Type of Station	Local Name	PLS Location
SD001	Effluent To Surface Water (Monitor only during discharge)	Main Facility Discharge	NE Quarter of the NE Quarter of Section 7, Township 118 North, Range 23 West

Waste Stream Stations

Station	Type of Station	Local Name	PLS Location
WS001	Influent Waste	Influent Waste	NE Quarter of the NE Quarter of Section 7, Township 118 North, Range 23 West
WS002	Internal Waste Stream	Intermediate point sampling	NE Quarter of the NE Quarter of Section 7, Township 118 North, Range 23 West

Loretto Wastewater Treatment Facility
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

SD 001: Main Facility Discharge (Applicable only during discharge)

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
BOD, Carbonaceous 05 Day (20 Deg C)	75.4	kg/day	Calendar Month Average	Jan-Dec	Grab	2 x Week	3
BOD, Carbonaceous 05 Day (20 Deg C)	25	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Week	6
BOD, Carbonaceous 05 Day (20 Deg C)	120.7	kg/day	Maximum Calendar Week Average	Jan-Dec	Grab	2 x Week	3
BOD, Carbonaceous 05 Day (20 Deg C)	40	mg/L	Maximum Calendar Week Average	Jan-Dec	Grab	2 x Week	6
Fecal Coliform, MPN or Membrane Filter 44.5C	200	#100ml	Calendar Month Geometric Mean	Apr-Oct	Grab	2 x Week	6
Flow	0.0	MG	Calendar Month Total Intervention	Jan-Feb, Jul, Aug	Measurement	1 x Day	8
Flow	Monitor Only	mgd	Calendar Month Average	Mar-Jun, Sep-Dec	Measurement	1 x Day	7
Flow	Monitor Only	MG	Calendar Month Total	Mar-Jun, Sep-Dec	Measurement	1 x Day	7
Oxygen, Dissolved	Monitor Only	mg/L	Calendar Month Minimum	Jan-Dec	Grab	2 x Week	1
pH	9.0	SU	Calendar Month Maximum	Jan-Dec	Grab	2 x Week	1
pH	6.0	SU	Calendar Month Minimum	Jan-Dec	Grab	2 x Week	1
Phosphorus, Total (as P)	3.02	kg/day	Calendar Month Average	Jan-Dec	Grab	2 x Week	6
Phosphorus, Total (as P)	1.0	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Week	6
Solids, Total Suspended (TSS)	135.8	kg/day	Calendar Month Average	Jan-Dec	Grab	2 x Week	3
Solids, Total Suspended (TSS)	45	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Week	6
Solids, Total Suspended (TSS)	196.1	kg/day	Maximum Calendar Week Average	Jan-Dec	Grab	2 x Week	3
Solids, Total Suspended (TSS)	65	mg/L	Maximum Calendar Week Average	Jan-Dec	Grab	2 x Week	6

WS 001: Influent Waste

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
BOD, Carbonaceous 05 Day (20 Deg C)	Monitor Only	mg/L	Calendar Quarter Average	Jan-Dec	4-Hour Flow Composite	1 x Quarter	5
BOD, Carbonaceous 05 Day (20 Deg C)	Monitor Only	mg/L	Calendar Quarter Maximum	Jan-Dec	4-Hour Flow Composite	1 x Quarter	5
Flow	Monitor Only	mgd	Calendar Month Average	Jan-Dec	Measurement, Continuous	1 x Day	
Flow	Monitor Only	mgd	Calendar Month Maximum	Jan-Dec	Measurement, Continuous	1 x Day	
Flow	Monitor Only	MG	Calendar Month Total	Jan-Dec	Measurement, Continuous	1 x Day	
pH	Monitor Only	SU	Calendar Quarter Maximum	Jan-Dec	Grab	1 x Quarter	2
pH	Monitor Only	SU	Calendar Quarter Minimum	Jan-Dec	Grab	1 x Quarter	2
Phosphorus, Total (as P)	Monitor Only	mg/L	Calendar Quarter Average	Jan-Dec	4-Hour Flow Composite	1 x Quarter	5

Loretto Wastewater Treatment Facility
Limits and Monitoring Requirements

The Permittee shall comply with the limits and monitoring requirements as specified below.

WS 001: Influent Waste

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Precipitation	Monitor Only	in	Calendar Month Total	Jan-Dec	Measurement	1 x Day	
Solids, Total Suspended (TSS)	Monitor Only	mg/L	Calendar Quarter Average	Jan-Dec	4-Hour Flow Composite	1 x Quarter	5
Solids, Total Suspended (TSS)	Monitor Only	mg/L	Calendar Quarter Maximum	Jan-Dec	4-Hour Flow Composite	1 x Quarter	5

WS 002: Intermediate point sampling

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
BOD, Carbonaceous 05 Day (20 Deg C)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	4
Chloride, Total	Monitor Only	mg/L	Single Value	Apr, Jul, Oct	Grab	1 x Month	4
Nitrite Plus Nitrate, Total (as N)	Monitor Only	mg/L	Single Value	Apr, Jul, Oct	Grab	1 x Month	4
Nitrogen, Ammonia, Total (as N)	Monitor Only	mg/L	Single Value	Apr, Jul, Oct	Grab	1 x Month	4
Nitrogen, Kjeldahl, Total	Monitor Only	mg/L	Single Value	Apr, Jul, Oct	Grab	1 x Month	4
Solids, Total Suspended (TSS)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	4

Notes:
1 -- Analyze immediately. Samples shall be collected from the final cell outlet control structure.
2 -- Analyze immediately. Samples may be taken at any time during each calendar quarter but must be reported on the DMR for the last month of each quarter (e.g. the sample for the first calendar quarter of Jan-Mar should be reported on the March DMR).
3 -- Based on a maximum 6-inch per day drawdown rate from the 4.9 acre secondary cell.
4 -- Intermediate point samples shall be taken at a point representative of the discharge from the aerated ponds to the 4.9-acre seepage pond.
5 -- Samples may be taken at any time during each calendar quarter but must be reported on the DMR for the last month of each quarter (e.g. the sample for the first calendar quarter of Jan-Mar should be reported on the March DMR).
6 -- Samples shall be collected from the final cell outlet control structure.
7 -- The acceptable discharge periods are March 1 through June 15 and September 15 through December 31.
8 -- The problem discharge periods are January through February, July, and August.

Chapter 1. Special Requirements

1. Special Requirements

Lake Independence Waste Load Allocation

1.1 This Facility discharge is located upstream of Lake Independence and is included in the Lake Independence Nutrient Total Maximum Daily Load (TMDL) Study approved by the EPA on February 23, 2007. Under this TMDL the Permittee is assigned a phosphorus waste load allocation (WLA) of zero based on the City's intent to connect to the regional sanitary sewer system and discontinue local treatment and disposal.

1.2 By 180 days after permit issuance the Permittee shall submit a Plan, for MPCA review and approval, that outlines how the Permittee will eliminate the Facility's phosphorus load discharged to Lake Independence to meet the WLA of zero. This plan must address, at minimum, information on implementation including:

a) Agreements and/or permits the Permittee need to implement the plan, schedules for executing them and the terms for receiving wastewater services through the regional sanitary sewer system; and
b) Items that will require engineering submittals and the timeline associated with implementation; and
c) Available funding sources that the Permittee will pursue and schedules associated with them.

1.3 The Permittee shall submit an annual report by July 31st for MPCA review and approval. The first report will be due July 31, 2012. The report must provide updated information on the following items:

a) Updated schedule for plan implementation; and
b) Updates on agreements in progress; and
c) Information on status of funding requests; and
c) Summary of work completed
d) Work proposed for the following year.

1.4 At permit reissuance the MPCA shall review the progress of the Permittee toward meeting a Phosphorus waste load allocation of zero, compliance with the permit requirements and compliance with the TMDL.

If progress made by permit expiration does not include executed agreements to establish a regional wastewater service connection, with a connection or completion date no later than December 31, 2017, a wasteload allocation will be developed for the Facility in accordance with the provisions of the approved TMDL report.

The resulting wasteload allocation will be the basis for the development of a water quality based effluent limitation to be included in the next NPDES permit reissuance, allowing for continued operation of the Facility until a regional wastewater service connection is established. Any future water quality based effluent limitation may be significantly more restrictive than the Facility's cuurent Total Phosphorus effluent limitation.

1.5 The Permittee must meet the provisions of the TMDL as soon as possible, but no later than 2017.

Inflow and Infiltration (I/I)

1.6 The Facility has increased peak flows during wet weather events indicating that there are sources of Inflow and Infiltration (I/I) within the Permittee collection system. Removal of I/I from the system will reduce the clear water input and lower influent wastewater flows to the system to allow for operation at design flows for optimal treatment.

Chapter 1. Special Requirements

1. Special Requirements

1.7 By December 8, 2011 the Permittee shall submit a sanitary sewer evaluation, for review and approval, detailing the Permittee's efforts to identify and reduce sources of Inflow and/or Infiltration (I/I) to its collection and treatment system. At a minimum, this I/I Plan should include a discussion of the following:

a) The Permittee's current policy (ordinance, etc.) concerning the connection of floor drain, sump pump, roof leader, etc. from buildings connected to the system; and

b) How the Permittee assures compliance with the policy; and

c) A description of past efforts by the Permittee to identify and eliminate sources of I/I, such as sanitary sewer evaluation and rehabilitation; and

d) A description of future efforts that the Permittee will initiate to identify and eliminate sources of I/I, including anticipated start dates.

1.8 By 180 days after submittal the Permittee shall implement the I/I plan.

1.9 Following implementation of the I/I Plan the Permittee shall submit an annual Infiltration and Inflow Evaluation Report by July 1st, for review and approval by the MPCA. This report shall include updated information on the I/I work performed over the last calendar year and a schedule for the I/I work to be performed in the next calendar year.

Chapter 2. Surface Discharge Stations

1. Requirements for Specific Stations

1.1 SD 001: Submit a monthly DMR by 21 days after the end of each calendar month following permit issuance.

2. Sampling Location

2.1 Samples for Station SD001 shall be taken at a point representative of the total facility discharge.

3. Surface Discharges

3.1 Floating solids or visible foam shall not be discharged in other than trace amounts.

3.2 Oil or other substances shall not be discharged in amounts that create a visible color film.

3.3 The Permittee shall install and maintain outlet protection measures at the discharge stations to prevent erosion.

4. Winter Sampling Conditions

4.1 The Permittee shall sample flows at the designated monitoring stations including when this requires removing ice to sample the water. If the station is completely frozen throughout a designated sampling month, the Permittee shall check the "No Discharge" box on the Discharge Monitoring Report (DMR) and note the ice conditions in Comments on the DMR.

5. Discharge Monitoring Reports

5.1 The Permittee shall submit monitoring results for discharges in accordance with the limits and monitoring requirements for this station. If no discharge occurred during the reporting period, the Permittee shall check the "No Discharge" box on the Discharge Monitoring Report (DMR).

Chapter 3. Waste Stream Stations

1. Requirements for Specific Stations

1.1 WS 001: Submit a monthly DMR by 21 days after the end of each calendar month following permit issuance.

1.2 WS 002: Submit a monthly DMR by 21 days after the end of each calendar month following permit issuance.

2. Sampling Location

2.1 Samples for Station WS001 shall be taken at a point that is representative of the total facility influent flow.

2.2 Influent grab and composite samples shall be collected in the sewer system prior to the primary cell.

2.3 Samples for station WS002 shall be taken at a point representative of the Facilty flow from the aeration basin to the polishing pond.

Chapter 4. Domestic Wastewater -- Aerated Pond System

1. Reporting

1.1 The Permittee shall inspect the aerated pond system weekly, and shall take measurements of the pond water depth, estimate the coverage of aquatic plants, floating mats and ice cover on the surface of the ponds, and note odors, the condition of the dikes and the presence of muskrats.

2. Records

2.1 The Permittee shall maintain records of these weekly inspections for the last three (3) years, and submit the results on a Discharge Monitoring Report (DMR) Supplemental Form.

Chapter 5. Domestic Wastewater -- Pond System

1. Bypass Structures

1.1 All structures capable of bypassing the treatment system shall be manually controlled and kept locked at all times.

2. Sanitary Sewer Extension Permit

2.1 The Permittee may be required to obtain a Sanitary Sewer Extension Permit from the MPCA prior to the start of construction of any addition, extension or replacement to the sanitary sewer. If a sewer extension permit is required, no construction of any part of the system may begin until that permit has been issued.

3. Operator Certification

3.1 The Permittee shall provide a Class C state certified operator who is in direct responsible charge of the operation, maintenance and testing functions required to ensure compliance with the terms and conditions of this permit.

3.2 If the Permittee chooses to meet operator certification requirements through a contractual agreement, the Permittee shall provide a copy of the contract to the MPCA, WQ Submittals Center. The contract shall include the certified operator's name, certificate number, company name if appropriate, the period covered by the contract and provisions for renewal; the duties and responsibilities of the certified operator; the duties and responsibilities of the permittee; and provisions for notifying the MPCA 30 days in advance of termination if the contract is terminated prior to the expiration date.

3.3 The Permittee shall notify the MPCA within 30 days of a change in operator certification or contract status.

Chapter 5. Domestic Wastewater -- Pond System

4. Ponds - Acceptable Discharge Periods

4.1 Acceptable Discharge Periods are March 1 through June 15 and September 15 through December 31 for facilities located in the Marshall, Rochester, Willmar, Mankato and Metropolitan regions.

4.2 Effluent limitations for this permit have been assigned based upon the assumption that the receiving waters exhibit favorable flow and reaeration characteristics during the acceptable discharge periods.

5. Ponds - Discharges Outside Acceptable Discharge Periods

5.1 For discharges occurring outside the acceptable discharge periods, refer to the "Stabilization Pond Guidance Discharge Guidance" located at www.pca.state.mn.us/water/wastewater.html#operation. If any of the discharge occurs outside of the acceptable discharge periods, the Permittee shall notify the MPCA of the potential noncompliance prior to discharge. The Permittee shall call the appropriate regional office and indicate that the call is for notification of a pond discharge.

5.2 For any discharge outside of acceptable discharge periods or to an ice covered receiving water, an adequate dilution ratio is required. If an adequate dilution ratio is not available, receiving water monitoring is required.

5.3 For any discharge outside of acceptable discharge periods or to an ice covered receiving water, the Permittee shall submit a "Discharge Evaluation Report" on a form provided in the "Stabilization Pond Discharge Guidance located at www.pca.state.mn.us/water/wastewater.html#operation.

6. Ponds - Discharge Rate

6.1 The discharge rate shall be limited so as not to create a shock load on the receiving waters, disturb the pond bottom sediment in the area of the intake of the outfall structure or flood downstream properties. If the drawdown rate should exceed six (6) inches per day, call the MPCA at the appropriate regional office and indicate that the call is for notification of a pond discharge.

7. Ponds - Pre-discharge Sampling

7.1 If predischarge sample results indicate that one or more of the effluent limitations may be exceeded, the Permittee shall notify the MPCA of potential noncompliance prior to discharge. The Permittee shall call the MPCA at the appropriate regional office and indicate that the call is for notification of a pond discharge.

7.2 Samples shall be taken from four sides of the pond and composited prior to discharge and analyzed for permitted parameters. This sampling must be taken no more than two weeks prior to the beginning of the discharge; dissolved oxygen and pH (both are field tests) must be taken no more than 24 hours prior to the beginning of the discharge. If more than two weeks pass prior to the beginning of discharge, additional predischarge samples shall be obtained and analyzed prior to discharge.

8. Ponds - Observations

8.1 The Permittee shall inspect the pond system weekly, and shall take measurements of pond water depth, estimate the coverage of aquatic plants, floating mats and ice cover on the surface of the ponds, and note odors, the condition of the dikes and the presence of muskrats. The Permittee shall maintain records of these weekly inspections for the last three (3) years, and submit the results on the Discharge Monitoring Report (DMR) supplemental form.

8.2 The Permittee shall maintain daily precipitation records.

Chapter 6. Pretreatment

1. Pretreatment - Definitions

1.1 An "Individual Control Mechanism" is a document, such as an agreement or permit, that imposes limitations or requirements on an individual industrial user of the POTW.

Chapter 6. Pretreatment

1. Pretreatment - Definitions

1.2 "Significant Industrial User" (SIU) means any industrial user that:

a. discharges 25,000 gallons per day or more of process wastewater;

b. contributes a load of five (5) % or more of the capacity of the POTW; or

c. is designated as significant by the Permittee or the MPCA on the basis that the SIU has a reasonable potential to adversely impact the POTW, or the quality of its effluent or residuals. (Minn. R. 7049.0120, Subp. 24)

2. Pretreatment - Permittee Responsibility to Control Users

2.1 It is the Permittee's responsibility to regulate the discharge from users of its wastewater treatment facility. The Permittee shall prevent any pass through of pollutants or any inhibition or disruption of the Permittee's facility, its treatment processes, or its sludge processes or disposal that contribute to the violation of the conditions of this permit or any federal or state law or regulation limiting the release of pollutants from the POTW. (Minn. R. 7049.0600)

2.2 The Permittee shall prohibit the discharge of the following to its wastewater treatment facility:

a. pollutants which create a fire or explosion hazard, including any discharge with a flash point less than 60 degrees C (140 degrees F);

b. pollutants which would cause corrosive structural damage to the POTW, including any waste stream with a pH of less than 5.0;

c. solid or viscous pollutants which would obstruct flow;

d. heat that would inhibit biological activity, including any discharge that would cause the temperature of the waste stream at the POTW treatment plant headworks to exceed 40 degrees C (104 degrees F);

e. pollutants which produce toxic gases, vapors, or fumes that may endanger the health or safety of workers; or

f. any pollutant, including oxygen demanding pollutants such as biochemical oxygen demand, released at a flow rate or pollutant concentration that will cause interference or pass through. (Minn. R. 7049.0140)

2.3 The Permittee shall prohibit new discharges of non-contact cooling waters unless there is no cost effective alternative. Existing discharges of non-contact cooling water to the Permittee's wastewater treatment facility shall be eliminated, where elimination is cost-effective, or where an infiltration/inflow analysis and sewer system evaluation survey indicates the need for such removal.

2.4 If the Permittee accepts trucked-in wastes, the Permittee shall evaluate the trucked in wastes prior to acceptance in the same manner as it monitors sewered wastes. The Permittee shall accept trucked-in wastes only at specifically designated points. (Minn. R. 7049.0140, Subp. 4)

2.5 Pollutant of concern means a pollutant that is or may be discharged by an industrial user that is, or reasonably should be of concern on the basis that it may cause the permittee to violate any permit limits on the release of pollutants. The following pollutants shall be evaluated to determine if they should be pollutants of concern: pollutants limited in this permit, pollutants for which monitoring is required in this permit, pollutants that are likely to cause inhibition of the Permittee's POTW, pollutants which may interfere with sludge disposal and pollutants for which the Permittee's treatment facility has limited capacity. (Minn. R. 7049.0120, Subp. 13)

Chapter 6. Pretreatment

3. Control of Significant Industrial Users

3.1 The Permittee shall impose pretreatment requirements on SIUs which will ensure compliance with all applicable effluent limitations and other requirements set forth in this permit or any federal or state law or regulation limiting the release of pollutants from the POTW. These requirements shall be applied to SIUs by means of an individual control mechanism. (Minn. R. 7049.0600)

3.2 The Permittee shall not knowingly enter into an individual control mechanism with any user that would allow the user to contribute an amount or strength of wastewater that would cause violation of any limitation or requirement in the permit, or any applicable federal, state or local law or regulation. (Minn. R. 7049.0600 Subp. 3)

4. Monitoring of Significant Industrial Users

4.1 The Permittee shall obtain from SIUs specific information on the quality and quantity of the SIU's discharges to the Permittee's POTW. Except where specifically requested by the Permittee and approved by the MPCA, this information shall be obtained by means of representative monitoring conducted by the Permittee or by the SIU under requirements imposed by the Permittee in the SIU's individual control mechanism. Monitoring performed to comply with this requirement shall include all pollutants for which the SIU is significant and shall be done at a frequency commensurate with the significance of the SIU. (Minn. R. 7049.0710)

5. Reporting and Notification

5.1 If a SIU discharges to the POTW during a given calendar year, the Permittee shall submit a Pretreatment Annual Report for that calendar year, due by January 31 of the following year. The Pretreatment Annual Report shall be submitted on forms provided by the agency or shall provide equivalent information.

The Permittee shall submit the pre-treatment report to the following address:

MPCA
Attn: WQ Submittals Center
520 Lafayette Road North
St. Paul, Minnesota 55155-4194 (Minn. R. 7049.0720)

5.2 The Permittee shall notify the MPCA in writing of any:

a. SIU of the Permittee's POTW which has not been previously disclosed to the MPCA;

b. anticipated or actual changes in the volume or quality of discharge by an industrial user that could result in the industrial user becoming an SIU as defined in this chapter; or

c. anticipated or actual changes in the volume or quality of discharges by a SIU that would require changes to the SIU's required local limits.

This notification shall be submitted within 30 days of identifying the IU as a SIU. Where changes are proposed, they must be submitted prior to changes being made. (Minn. R. 7049.0700, Subp. 1)

Chapter 6. Pretreatment

5. Reporting and Notification

5.3 Upon notifying the MPCA of a SIU or change in a SIU discharge as required above, the Permittee shall submit the following information on forms provided by the agency or in a comparable format:

a. the identity of the SIU and a description of the SIU's operation and process;

b. a characterization of the SIU's discharge;

c. the required local limits that will be imposed on the SIU;

d. a technical justification of the required local limits; and

e. a plan for monitoring the SIU which is consistent with monitoring requirements in this chapter. (Minn. R. 7049.0700)

5.4 In addition, the Permittee shall, upon request, submit the following to the MPCA for approval:

a. additional information on the SIU, its processes and discharge;

b. a copy of the individual control mechanism used to control the SIU;

c. the Permittee's legal authority to be used for regulating the SIU; and

d. the Permittee's procedures for enforcing the requirements imposed on the SIU. (Minn. R. 7049.0700, Subp. 3)

5.5 The permittee shall notify MPCA of any of its industrial users that may be subject to national categorical pretreatment standards.

5.6 This permit may be modified in accordance with Minnesota Rules, ch. 7001 to require development of a pretreatment program approvable under the Federal General Pretreatment Regulation (40 CFR 403).

Chapter 7. Phosphorus Management Plan

1. General Requirements

1.1 Phosphorus is a common constituent in many wastewater discharges and a pollutant that has the potential to negatively impact the quality of Minnesota's lakes, wetlands, rivers and streams. Therefore, phosphorus discharges are being carefully evaluated throughout the state.

The Permittee is required to complete and submit a Phosphorus Management Plan (PMP) to the MPCA as detailed in this section. If the Permittee has already submitted a PMP, the Permittee must update that PMP and submit the updated PMP to the MPCA as detailed in this section.

While the PMP does not require specific reductions at this time, the MPCA strongly encourages the Permittee to identify and eliminate/reduce sources of phosphorus to, and improve phosphorus management within, the permitted wastewater treatment facility. However, be aware that new or expanding discharges may be required to actively manage and reduce phosphorus, including complying with new or tighter phosphorus effluent limits.

For additional information about completing the PMP below, please contact the MPCA at 651-282-6143 or 800-657-3864.

Chapter 7. Phosphorus Management Plan

1. General Requirements

1.2 The Permittee shall submit a Phosphorus Management Plan (PMP) or an updated PMP to the MPCA 180 days prior to permit expiration.

At a minimum, the PMP shall include the following:

a. A summary of influent and effluent concentrations, mass loadings, and percent removal calculations using the most recent five years of monitoring data, if available.

b. Identification of existing and potential sources of elevated phosphorus concentrations and/or loading to the facility. As appropriate for the facility, consider residential, institutional, municipal, and commercial sources.

c. An evaluation of past and present WWTF operations to determine those operating procedures that maximize phosphorus removal.

d. A summary of any phosphorus reduction activities implemented during the last five years.

e. Phosphorus management and reduction goals for the next five years using the information collected in A through D above.

f. A plan to implement phosphorus management and reduction measures during the next five years.

Chapter 8. Facility Specific Definitions

1. Definitions

1.1 Please refer to the 'Permit Users Manual' included with the permit for standard definitions.

Chapter 9. Total Facility Requirements

1. General Requirements

General Requirements

1.1 Incorporation by Reference. The following applicable federal and state laws are incorporated by reference in this permit, are applicable to the Permittee, and are enforceable parts of this permit: 40 CFR pts. 122.41, 122.42, 136, 403 and 503; Minn. R. pts. 7001, 7041, 7045, 7050, 7052, 7053, 7060, and 7080; and Minn. Stat. Sec. 115 and 116.

1.2 Permittee Responsibility. The Permittee shall perform the actions or conduct the activity authorized by the permit in compliance with the conditions of the permit and, if required, in accordance with the plans and specifications approved by the Agency. (Minn. R. 7001.0150, subp. 3, item E)

1.3 Toxic Discharges Prohibited. Whether or not this permit includes effluent limitations for toxic pollutants, the Permittee shall not discharge a toxic pollutant except according to Code of Federal Regulations, Title 40, sections 400 to 460 and Minnesota Rules 7050, 7052, 7053 and any other applicable MPCA rules. (Minn. R. 7001.1090, subp.1, item A)

1.4 Nuisance Conditions Prohibited. The Permittee's discharge shall not cause any nuisance conditions including, but not limited to: floating solids, scum and visible oil film, acutely toxic conditions to aquatic life, or other adverse impact on the receiving water. (Minn. R. 7050.0210 subp. 2)

Chapter 9. Total Facility Requirements

1. General Requirements

1.5 Property Rights. This permit does not convey a property right or an exclusive privilege. (Minn. R. 7001.0150, subp. 3, item C)

1.6 Liability Exemption. In issuing this permit, the state and the MPCA assume no responsibility for damage to persons, property, or the environment caused by the activities of the Permittee in the conduct of its actions, including those activities authorized, directed, or undertaken under this permit. To the extent the state and the MPCA may be liable for the activities of its employees, that liability is explicitly limited to that provided in the Tort Claims Act. (Minn. R. 7001.0150, subp. 3, item O)

1.7 The MPCA's issuance of this permit does not obligate the MPCA to enforce local laws, rules, or plans beyond what is authorized by Minnesota Statutes. (Minn. R. 7001.0150, subp.3, item D)

1.8 Liabilities. The MPCA's issuance of this permit does not release the Permittee from any liability, penalty or duty imposed by Minnesota or federal statutes or rules or local ordinances, except the obligation to obtain the permit. (Minn. R. 7001.0150, subp.3, item A)

1.9 The issuance of this permit does not prevent the future adoption by the MPCA of pollution control rules, standards, or orders more stringent than those now in existence and does not prevent the enforcement of these rules, standards, or orders against the Permittee. (Minn. R. 7001.0150, subp.3, item B)

1.10 Severability. The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

1.11 Compliance with Other Rules and Statutes. The Permittee shall comply with all applicable air quality, solid waste, and hazardous waste statutes and rules in the operation and maintenance of the facility.

1.12 Inspection and Entry. When authorized by Minn. Stat. Sec. 115.04; 115B.17, subd. 4; and 116.091, and upon presentation of proper credentials, the agency, or an authorized employee or agent of the agency, shall be allowed by the Permittee to enter at reasonable times upon the property of the Permittee to examine and copy books, papers, records, or memoranda pertaining to the construction, modification, or operation of the facility covered by the permit or pertaining to the activity covered by the permit; and to conduct surveys and investigations, including sampling or monitoring, pertaining to the construction, modification, or operation of the facility covered by the permit or pertaining to the activity covered by the permit. (Minn. R. 7001.0150, subp.3, item I)

1.13 Control Users. The Permittee shall regulate the users of its wastewater treatment facility so as to prevent the introduction of pollutants or materials that may result in the inhibition or disruption of the conveyance system, treatment facility or processes, or disposal system that would contribute to the violation of the conditions of this permit or any federal, state or local law or regulation.

Sampling

1.14 Representative Sampling. Samples and measurements required by this permit shall be conducted as specified in this permit and shall be representative of the discharge or monitored activity. (40 CFR 122.41 (j)(1))

1.15 Additional Sampling. If the Permittee monitors more frequently than required, the results and the frequency of monitoring shall be reported on the Discharge Monitoring Report (DMR) or another MPCA-approved form for that reporting period. (Minn. R. 7001.1090, subp. 1, item E)

1.16 Certified Laboratory. A laboratory certified by the Minnesota Department of Health shall conduct analyses required by this permit. Analyses of dissolved oxygen, pH, temperature and total residual oxidants (chlorine, bromine) do not need to be completed by a certified laboratory but shall comply with manufacturers specifications for equipment calibration and use. (Minn. Stat. Sec. 144.97 through 144.98 and Minn. R. 4740.2010 and 4740.2050 through 4740.2120) (Minn. R. 4740.2010 and 4740.2050 through 2120)

Chapter 9. Total Facility Requirements

1. General Requirements

1.17 Sample Preservation and Procedure. Sample preservation and test procedures for the analysis of pollutants shall conform to 40 CFR Part 136 and Minn. R. 7041.3200.

1.18 Equipment Calibration: Flow meters, pumps, flumes, lift stations or other flow monitoring equipment used for purposes of determining compliance with permit shall be checked and/or calibrated for accuracy at least twice annually. (Minn. R. 7001.0150, subp. 2, items B and C)

1.19 Maintain Records. The Permittee shall keep the records required by this permit for at least three years, including any calculations, original recordings from automatic monitoring instruments, and laboratory sheets. The Permittee shall extend these record retention periods upon request of the MPCA. The Permittee shall maintain records for each sample and measurement. The records shall include the following information (Minn. R. 7001.0150, subp. 2, item C):

a. The exact place, date, and time of the sample or measurement;

b. The date of analysis;

c. The name of the person who performed the sample collection, measurement, analysis, or calculation; and

d. The analytical techniques, procedures and methods used; and

e. The results of the analysis.

1.20 Completing Reports. The Permittee shall submit the results of the required sampling and monitoring activities on the forms provided, specified, or approved by the MPCA. The information shall be recorded in the specified areas on those forms and in the units specified. (Minn. R. 7001.1090, subp. 1, item D; Minn. R. 7001.0150, subp. 2, item B)

Required forms may include:

DMR Supplemental Form
Individual values for each sample and measurement must be recorded on the DMR Supplemental Form which, if required, will be provided by the MPCA. DMR Supplemental Forms shall be submitted with the appropriate DMRs. You may design and use your own supplemental form; however it must be approved by the MPCA. Note: Required summary information MUST also be recorded on the DMR. Summary information that is submitted ONLY on the DMR Supplemental Form does not comply with the reporting requirements.

Chapter 9. Total Facility Requirements

1. General Requirements

1.21 Submitting Reports. DMRs and DMR Supplemental Forms shall be submitted to:

MPCA
Attn: Discharge Monitoring Reports
520 Lafayette Road North
St. Paul, Minnesota 55155-4194.

DMRs and DMR Supplemental Forms shall be postmarked by the 21st day of the month following the sampling period or as otherwise specified in this permit. A DMR shall be submitted for each required station even if no discharge occurred during the reporting period. (Minn. R. 7001.0150, subps. 2.B and 3.H)

Other reports required by this permit shall be postmarked by the date specified in the permit to:

MPCA
Attn: WQ Submittals Center
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

1.22 Incomplete or Incorrect Reports. The Permittee shall immediately submit an amended report or DMR to the MPCA upon discovery by the Permittee or notification by the MPCA that it has submitted an incomplete or incorrect report or DMR. The amended report or DMR shall contain the missing or corrected data along with a cover letter explaining the circumstances of the incomplete or incorrect report. (Minn. R. 7001.0150 subp. 3, item G)

1.23 Required Signatures. All DMRs, forms, reports, and other documents submitted to the MPCA shall be signed by the Permittee or the duly authorized representative of the Permittee. Minn. R. 7001.0150, subp. 2, item D. The person or persons that sign the DMRs, forms, reports or other documents must certify that he or she understands and complies with the certification requirements of Minn. R. 7001.0070 and 7001.0540, including the penalties for submitting false information. Technical documents, such as design drawings and specifications and engineering studies required to be submitted as part of a permit application or by permit conditions, must be certified by a registered professional engineer. (Minn. R. 7001.0540)

1.24 Detection Level. The Permittee shall report monitoring results below the reporting limit (RL) of a particular instrument as "<" the value of the RL. For example, if an instrument has a RL of 0.1 mg/L and a parameter is not detected at a value of 0.1 mg/L or greater, the concentration shall be reported as "<0.1 mg/L." "Non-detected," "undetected," "below detection limit," and "zero" are unacceptable reporting results, and are permit reporting violations. (Minn. R. 7001.0150, subp. 2, item B)

Where sample values are less than the level of detection and the permit requires reporting of an average, the Permittee shall calculate the average as follows:

a. If one or more values are greater than the level of detection, substitute zero for all nondetectable values to use in the average calculation.

b. If all values are below the level of detection, report the averages as "<" the corresponding level of detection.

c. Where one or more sample values are less than the level of detection, and the permit requires reporting of a mass, usually expressed as kg/day, the Permittee shall substitute zero for all nondetectable values. (Minn. R. 7001.0150, subp. 2, item B)

Chapter 9. Total Facility Requirements

1. General Requirements

1.25 Records. The Permittee shall, when requested by the Agency, submit within a reasonable time the information and reports that are relevant to the control of pollution regarding the construction, modification, or operation of the facility covered by the permit or regarding the conduct of the activity covered by the permit. (Minn. R. 7001.0150, subp. 3, item H)

1.26 Confidential Information. Except for data determined to be confidential according to Minn. Stat. Sec. 116.075, subd. 2, all reports required by this permit shall be available for public inspection. Effluent data shall not be considered confidential. To request the Agency maintain data as confidential, the Permittee must follow Minn. R. 7000.1300.

Noncompliance and Enforcement

1.27 Subject to Enforcement Action and Penalties. Noncompliance with a term or condition of this permit subjects the Permittee to penalties provided by federal and state law set forth in section 309 of the Clean Water Act; United States Code, title 33, section 1319, as amended; and in Minn. Stat. Sec. 115.071 and 116.072, including monetary penalties, imprisonment, or both. (Minn. R. 7001.1090, subp. 1, item B)

1.28 Criminal Activity. The Permittee may not knowingly make a false statement, representation, or certification in a record or other document submitted to the Agency. A person who falsifies a report or document submitted to the Agency, or tampers with, or knowingly renders inaccurate a monitoring device or method required to be maintained under this permit is subject to criminal and civil penalties provided by federal and state law. (Minn. R. 7001.0150, subp.3, item G., 7001.1090, subps. 1, items G and H and Minn. Stat. Sec. 609.671)

1.29 Noncompliance Defense. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. (40 CFR 122.41(c))

1.30 Effluent Violations. If sampling by the Permittee indicates a violation of any discharge limitation specified in this permit, the Permittee shall immediately make every effort to verify the violation by collecting additional samples, if appropriate, investigate the cause of the violation, and take action to prevent future violations. Violations that are determined to pose a threat to human health or a drinking water supply, or represent a significant risk to the environment shall be immediately reported to the Minnesota Department of Public Safety Duty Officer at 1(800)422-0798 (toll free) or (651)649-5451 (metro area). In addition, you may also contact the MPCA during business hours. Otherwise the violations and the results of any additional sampling shall be recorded on the next appropriate DMR or report.

1.31 Unauthorized Releases of Wastewater Prohibited. Except for conditions specifically described in Minn. R. 7001.1090, subp. 1, items J and K, all unauthorized bypasses, overflows, discharges, spills, or other releases of wastewater or materials to the environment, whether intentional or not, are prohibited. However, the MPCA will consider the Permittee's compliance with permit requirements, frequency of release, quantity, type, location, and other relevant factors when determining appropriate action. (40 CFR 122.41 and Minn. Stat. Sec 115.061)

Chapter 9. Total Facility Requirements

1. General Requirements

1.32 Discovery of a release. Upon discovery of a release, the Permittee shall:

a. Take all reasonable steps to immediately end the release.

b. Notify the Minnesota Department of Public Safety Duty Officer at 1(800)422-0798 (toll free) or (651)649-5451 (metro area) immediately upon discovery of the release. In addition, you may also contact the MPCA during business hours at 1(800) 657-3864.

c. Recover as rapidly and as thoroughly as possible all substances and materials released or immediately take other action as may be reasonably possible to minimize or abate pollution to waters of the state or potential impacts to human health caused thereby. If the released materials or substances cannot be immediately or completely recovered, the Permittee shall contact the MPCA. If directed by the MPCA, the Permittee shall consult with other local, state or federal agencies (such as the Minnesota Department of Natural Resources and/or the Wetland Conservation Act authority) for implementation of additional clean-up or remediation activities in wetland or other sensitive areas.

d. Collect representative samples of the release. The Permittee shall sample the release for parameters of concern immediately following discovery of the release. The Permittee may contact the MPCA during business hours to discuss the sampling parameters and protocol. In addition, Fecal Coliform Bacteria samples shall be collected where it is determined by the Permittee that the release contains or may contain sewage. If the release cannot be immediately stopped, the Permittee shall consult with MPCA regarding additional sampling requirements. Samples shall be collected at least, but not limited to, two times per week for as long as the release continues.

e. Submit the sampling results as directed by the MPCA. At a minimum, the results shall be submitted to the MPCA with the next DMR.

1.33 Upset Defense. In the event of temporary noncompliance by the Permittee with an applicable effluent limitation resulting from an upset at the Permittee's facility due to factors beyond the control of the Permittee, the Permittee has an affirmative defense to an enforcement action brought by the Agency as a result of the noncompliance if the Permittee demonstrates by a preponderance of competent evidence:

a. The specific cause of the upset;

b. That the upset was unintentional;

c. That the upset resulted from factors beyond the reasonable control of the Permittee and did not result from operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or increases in production which are beyond the design capability of the treatment facilities;

d. That at the time of the upset the facility was being properly operated;

e. That the Permittee properly notified the Commissioner of the upset in accordance with Minn. R. 7001.1090, subp. 1, item I; and

f. That the Permittee implemented the remedial measures required by Minn. R. 7001.0150, subp. 3, item J.

Chapter 9. Total Facility Requirements

1. General Requirements

Operation and Maintenance

1.34 The Permittee shall at all times properly operate and maintain the facilities and systems of treatment and control, and the appurtenances related to them which are installed or used by the Permittee to achieve compliance with the conditions of the permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. The Permittee shall install and maintain appropriate backup or auxiliary facilities if they are necessary to achieve compliance with the conditions of the permit and, for all permits other than hazardous waste facility permits, if these backup or auxiliary facilities are technically and economically feasible Minn. R. 7001.0150. subp. 3, item F.

1.35 In the event of a reduction or loss of effective treatment of wastewater at the facility, the Permittee shall control production or curtail its discharges to the extent necessary to maintain compliance with the terms and conditions of this permit. The Permittee shall continue this control or curtailment until the wastewater treatment facility has been restored or until an alternative method of treatment is provided. (Minn. R. 7001.1090, subp. 1, item C)

1.36 Solids Management. The Permittee shall properly store, transport, and dispose of biosolids, septage, sediments, residual solids, filter backwash, screenings, oil, grease, and other substances so that pollutants do not enter surface waters or ground waters of the state. Solids should be disposed of in accordance with local, state and federal requirements. (40 CFR 503 and Minn. R. 7041 and applicable federal and state solid waste rules)

1.37 Scheduled Maintenance. The Permittee shall schedule maintenance of the treatment works during non-critical water quality periods to prevent degradation of water quality, except where emergency maintenance is required to prevent a condition that would be detrimental to water quality or human health. (Minn. R. 7001.0150. subp. 3, item F and Minn. R. 7001.0150. subp. 2, item B)

1.38 Control Tests. In-plant control tests shall be conducted at a frequency adequate to ensure compliance with the conditions of this permit. (Minn. R. 7001.0150. subp. 3, item F and Minn. R. 7001.0150. subp. 2, item B)

Changes to the Facility or Permit

1.39 Permit Modifications. No person required by statute or rule to obtain a permit may construct, install, modify, or operate the facility to be permitted, nor shall a person commence an activity for which a permit is required by statute or rule until the Agency has issued a written permit for the facility or activity. (Minn. R. 7001.0030)

Permittees that propose to make a change to the facility or discharge that requires a permit modification must follow Minn. R. 7001.0190. If the Permittee cannot determine whether a permit modification is needed, the Permittee must contact the MPCA prior to any action. It is recommended that the application for permit modification be submitted to the MPCA at least 180 days prior to the planned change.

1.40 Construction. No construction shall begin until the Permittee receives written approval of plans and specifications from the MPCA (Minn. Stat. Sec. 115.03(f)).

Plans, specifications and MPCA approval are not necessary when maintenance dictates the need for installation of new equipment, provided the equipment is the same design size and has the same design intent. For instance, a broken pipe, lift station pump, aerator, or blower can be replaced with the same design-sized equipment without MPCA approval.

If the proposed construction is not expressly authorized by this permit, it may require a permit modification. If the construction project requires an Environmental Assessment Worksheet under Minn. R. 4410, no construction shall begin until a negative declaration is issued and all approvals are received or implemented.

Chapter 9. Total Facility Requirements

1. General Requirements

1.41 Report Changes. The Permittee shall give advance notice as soon as possible to the MPCA of any substantial changes in operational procedures, activities that may alter the nature or frequency of the discharge, and/or material factors that may affect compliance with the conditions of this permit. (Minn. R. 7001.0150, subp. 3, item M)

1.42 Chemical Additives. The Permittee shall receive prior written approval from the MPCA before increasing the use of a chemical additive authorized by this permit, or using a chemical additive not authorized by this permit, in quantities or concentrations that have the potential to change the characteristics, nature and/or quality of the discharge.

The Permittee shall request approval for an increased or new use of a chemical additive at least 60 days, or as soon as possible, before the proposed increased or new use.

This written request shall include at least the following information for the proposed additive:

a. The process for which the additive will be used;
b. Material Safety Data Sheet (MSDS) which shall include aquatic toxicity, human health, and environmental fate information for the proposed additive;
c. A complete product use and instruction label;
d. The commercial and chemical names and Chemical Abstract Survey (CAS) number for all ingredients in the additive (If the MSDS does not include information on chemical composition, including percentages for each ingredient totaling to 100%, the Permittee shall contact the supplier to have this information provided); and
e. The proposed method of application, application frequency, concentration, and daily average and maximum rates of use.

Upon review of the information submitted regarding the proposed chemical additive, the MPCA may require additional information be submitted for consideration. This permit may be modified to restrict the use or discharge of a chemical additive and include additional influent and effluent monitoring requirements.

Approval for the use of an additive shall not justify the exceedance of any effluent limitation nor shall it be used as a defense against pollutant levels in the discharge causing or contributing to the violation of a water quality standard. (Minn. R. 7001.0170)

1.43 MPCA Initiated Permit Modification, Suspension, or Revocation. The MPCA may modify or revoke and reissue this permit pursuant to Minn. R. 7001.0170. The MPCA may revoke without reissuance this permit pursuant to Minn. R. 7001.0180.

1.44 TMDL Impacts. Facilities that discharge to an impaired surface water, watershed or drainage basin may be required to comply with additional permits or permit requirements, including additional restriction or relaxation of limits and monitoring as authorized by the CWA 303(d)(4)(A) and 40 CFR 122.44.1.2.i., necessary to ensure consistency with the assumptions and requirements of any applicable US EPA approved wasteload allocations resulting from Total Maximum Daily Load (TMDL) studies.

1.45 Permit Transfer. The permit is not transferable to any person without the express written approval of the Agency after compliance with the requirements of Minn. R. 7001.0190. A person to whom the permit has been transferred shall comply with the conditions of the permit. (Minn. R., 7001.0150, subp. 3, item N)

Chapter 9. Total Facility Requirements

1. General Requirements

1.46 Facility Closure. The Permittee is responsible for closure and postclosure care of the facility. The Permittee shall notify the MPCA of a significant reduction or cessation of the activities described in this permit at least 180 days before the reduction or cessation. The MPCA may require the Permittee to provide to the MPCA a facility Closure Plan for approval.

Facility closure that could result in a potential long-term water quality concern, such as the ongoing discharge of wastewater to surface or ground water, may require a permit modification or reissuance.

The MPCA may require the Permittee to establish and maintain financial assurance to ensure performance of certain obligations under this permit, including closure, postclosure care and remedial action at the facility. If financial assurance is required, the amount and type of financial assurance, and proposed modifications to previously MPCA-approved financial assurance, shall be approved by the MPCA. (Minn. Stat. Sec. 116.07, subd. 4)

1.47 Permit Reissuance. If the Permittee desires to continue permit coverage beyond the date of permit expiration, the Permittee shall submit an application for reissuance at least 180 days before permit expiration. If the Permittee does not intend to continue the activities authorized by this permit after the expiration date of this permit, the Permittee shall notify the MPCA in writing at least 180 days before permit expiration.

If the Permittee has submitted a timely application for permit reissuance, the Permittee may continue to conduct the activities authorized by this permit, in compliance with the requirements of this permit, until the MPCA takes final action on the application, unless the MPCA determines any of the following (Minn. R. 7001.0040 and 7001.0160):

a. The Permittee is not in substantial compliance with the requirements of this permit, or with a stipulation agreement or compliance schedule designed to bring the Permittee into compliance with this permit;

b. The MPCA, as a result of an action or failure to act by the Permittee, has been unable to take final action on the application on or before the expiration date of the permit;

c. The Permittee has submitted an application with major deficiencies or has failed to properly supplement the application in a timely manner after being informed of deficiencies.

Submittals and Actions Checklist
Loretto Wastewater Treatment Facility

This checklist is intended to assist you in tracking the reporting requirements of your permit. However, it is only an aid. PLEASE CONSULT YOUR PERMIT FOR THE EXACT REQUIREMENTS.

Please note: This checklist only details submittal requirements for the next five years. DMRs, Annual Reports, and many other submittals are required even after the expiration date of this permit, and continue to be due until the permit is either reissued or terminated.

Submit DMRs to:
Attention: Discharge Monitoring Reports
Minnesota Pollution Control Agency
520 Lafayette Rd N
St. Paul, MN 55155

Submit other WQ reports to:
Attention: Submittals Center
Minnesota Pollution Control Agency
520 Lafayette Rd N
St. Paul, MN 55155

MPCA Staff Contacts:
For DMR-related questions:
Linda Brooks at (651)757-2246
For other questions:
Charly Wojtysiak at (651)757-2831

2011

- [ ] Submit DMR (due before Feb 22)
- [ ] Submit DMR (due before Mar 22)
- [ ] Submit DMR (due before Apr 22)
- [ ] Submit DMR (due before May 22)
- [ ] Submit a plan (due before Jun 6) {Permit Req't. 1.1.2}
- [ ] Submit DMR (due before Jun 22)
- [ ] Submit DMR (due before Jul 22)
- [ ] Submit DMR (due before Aug 22)
- [ ] Submit DMR (due before Sep 22)
- [ ] Submit DMR (due before Oct 22)
- [ ] Submit DMR (due before Nov 22)
- [ ] Submit an I/I Investigation and Elimination Plan (due before Dec 8) {Permit Req't. 1.1.7}
- [ ] Submit DMR (due before Dec 22)

2012

- [ ] Submit DMR (due before Jan 22)
- [ ] Submit DMR (due before Feb 22)
- [ ] Submit DMR (due before Mar 22)
- [ ] Submit DMR (due before Apr 22)
- [ ] Submit DMR (due before May 22)
- [ ] Submit DMR (due before Jun 22)
- [ ] Submit DMR (due before Jul 22)
- [ ] Submit DMR (due before Aug 22)
- [ ] Submit DMR (due before Sep 22)
- [ ] Submit DMR (due before Oct 22)
- [ ] Submit DMR (due before Nov 22)
- [ ] Submit DMR (due before Dec 22)

2013

- [ ] Submit DMR (due before Jan 22)
- [ ] Submit DMR (due before Feb 22)
- [ ] Submit DMR (due before Mar 22)
- [ ] Submit DMR (due before Apr 22)
- [ ] Submit DMR (due before May 22)
- [ ] Submit DMR (due before Jun 22)
- [ ] Submit DMR (due before Jul 22)
- [ ] Submit DMR (due before Aug 22)
- [ ] Submit DMR (due before Sep 22)
- [ ] Submit DMR (due before Oct 22)
- [ ] Submit DMR (due before Nov 22)
- [ ] Submit DMR (due before Dec 22)

2014

- [ ] Submit DMR (due before Jan 22)
- [ ] Submit DMR (due before Feb 22)

Submittals and Actions Checklist
Loretto Wastewater Treatment Facility

This checklist is intended to assist you in tracking the reporting requirements of your permit. However, it is only an aid. PLEASE CONSULT YOUR PERMIT FOR THE EXACT REQUIREMENTS.

Please note: This checklist only details submittal requirements for the next five years. DMRs, Annual Reports, and many other submittals are required even after the expiration date of this permit, and continue to be due until the permit is either reissued or terminated.

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520 Lafayette Rd N
St. Paul, MN 55155

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Attention: Submittals Center
Minnesota Pollution Control Agency
520 Lafayette Rd N
St. Paul, MN 55155

MPCA Staff Contacts:
For DMR-related questions:
Linda Brooks at (651)757-2246
For other questions:
Charly Wojtysiak at (651)757-2831

2014

- [ ] Submit DMR (due before Mar 22)
- [ ] Submit DMR (due before Apr 22)
- [ ] Submit DMR (due before May 22)
- [ ] Submit DMR (due before Jun 22)
- [ ] Submit DMR (due before Jul 22)
- [ ] Submit DMR (due before Aug 22)
- [ ] Submit DMR (due before Sep 22)
- [ ] Submit DMR (due before Oct 22)
- [ ] Submit DMR (due before Nov 22)
- [ ] Submit DMR (due before Dec 22)

2015

- [ ] Submit DMR (due before Jan 22)
- [ ] Submit DMR (due before Feb 22)
- [ ] Submit DMR (due before Mar 22)
- [ ] Submit DMR (due before Apr 22)
- [ ] Submit DMR (due before May 22)
- [ ] Submit a Phosphorus Management Plan (due before Jun 3) {Permit Req't. 7.1.2}
- [ ] Submit an application for permit reissuance (due before Jun 3) {Permit Req't. 9.1.47}
- [ ] Submit DMR (due before Jun 22)
- [ ] Submit DMR (due before Jul 22)
- [ ] Submit DMR (due before Aug 22)
- [ ] Submit DMR (due before Sep 22)
- [ ] Submit DMR (due before Oct 22)
- [ ] Submit DMR (due before Nov 22)

Other Submittals

- [ ] By 180 days after submittal the Permittee shall implement the I/I plan. {Permit Req't. 1.1.8}
- [ ] Following implementation of the I/I Plan the Permittee shall submit an annual Infiltration and Inflow Evaluation Report by July 1st, for review and approval by the MPCA. This report shall include updated information on the I/I work performed over the last calendar year and a schedule for the I/I work to be performed in the next calendar year. {Permit Req't. 1.1.9}
- [ ] Following the submittal of the plan for phosphorus load removal, the Permittee shall submit an annual report by July 31st for MPCA review and approval. The report must provide updated information on the following items:

  a) Updated schedule for plan implementation; and
  b) Updates on agreements in progress; and
  c) Information on status of funding requests; and
  c) Summary of work completed
  d) Work proposed for the following year.
  {Permit Req't. 1.1.3}

/O=WENCK/OU=FIRST ADMINISTRATIVE GROUP/CN=RECIPIENTS/CN=SNELSON

From: Bendt, Shauna (MPCA) <Shauna.Bendt@state.mn.us>
Sent: Wednesday, July 08, 2015 11:18 AM
To: Kent Koch
Cc: Mary Schneider; Jeff Leuer
Subject: Loretto WWTF - NPDES Permit Application Complete

July 8, 2015

The Honorable Kent Koch
Mayor, City of Loretto

RE: Application Complete Enough for Processing Notification
Loretto Wastewater Treatment Facility
NPDES/SDS Permit No. MN0023990

Dear Mayor Koch:

The Minnesota Pollution Control Agency (MPCA) has received your permit application (Application), dated May 28, 2015 submitted by Mr. Peter Daniels from Wenck Associates, Inc. on behalf of the City of Loretto. Pursuant to Minn. Stat. § 116.03, subd. 2b(d) MPCA staff reviewed your Application for completeness. Your Application has been determined to be complete enough for processing.

The MPCA may still have additional questions during the development of the permit to clarify information contained in the Application. Your prompt response to any information requests is necessary to ensure that the 150-day issuance goal can be achieved. These requests will not invalidate the determination of completeness for this application. Thank you for your cooperation.

Additional application fees may be applied to your permit application. These additional fees will be sent to you by invoice at the time the permit is placed on public notice and must be paid before the permit is issued. Information about the additional application fees and their applicability can be found on the Agency's website at: http://www.pca.state.mn.us/water/permits/index.html.

You are required to continue operating under the terms and conditions of your existing permit until either your permit is reissued or you are notified that your existing permit has expired and will not be reissued. A person who holds an expired permit and has submitted a timely application for reissuance may continue to conduct the permitted activity until the MPCA takes final action on the permit or the MPCA finds that any of the conditions listed in Minn. R. 7001.0160 are true.

Please use MN0023990 in all correspondence with the MPCA pertinent to this permit application. If you have any questions concerning this request, please contact me at 651-757-2282 or by email: shauna.bendt@state.mn.us.

This message shall serve as the only notification of completeness. A paper copy will not be sent.

Sincerely,
Shauna Bendt
Environmental Specialist 2
Municipal Wastewater Permitting

Appendix D

Operations and Maintenance Agreement with the Loretto Community Athletic Association

OPERATIONS AND MAINTENANCE AGREEMENT BETWEEN THE CITY OF LORETTO AND THE LORETTO COMMUNITY ATHLETIC ASSOCIATION

This Operations and Maintenance Agreement ("Agreement") is entered into by and between the City of Loretto (the "City"), 279 N. Medina Street, Suite 260, Loretto, MN 55357 and the Loretto Community Athletic Association ("LCAA"), PO Box 221, Loretto, MN 55357.

WHEREAS, the City owns park land located at 700 Medina Street, Loretto, known as the Arnold Klaers Baseball Field (the "Baseball Park"), consisting of approximately 5 acres and used for baseball activities by the general public; and

WHEREAS, the LCAA is a non-profit 501(c)(3) corporation registered with the State of Minnesota that promotes youth participation in sports activities among other things; and

WHEREAS, the City has a small staff and limited resources that must be allocated among all of the services it provides, including parks; and

WHEREAS, the City wants to provide recreational opportunities to its residents and members of the larger community; and

WHEREAS, the LCAA has experience and skills with scheduling field usage and maintaining the ballfields according to appropriate specifications for the sport; and

WHEREAS, the City has determined that it will be able to reduce its costs by contracting with the LCAA to operate and manage the Baseball Park for public use rather than doing this work itself.

NOW, THEREFORE, in consideration of the promises and agreements contained herein, the City and the LCAA agree as follows:

1. TERM

The Term of this Agreement is for a period of fifteen years beginning April 1, 2014 through March 31, 2029, regardless of the date of execution of this Agreement. This Agreement is subject to annual review of the City Council and may be terminated earlier as provided below. The Agreement may be renewed for such terms and conditions as the parties may agree.

2. OPERATIONS

A. Financials

The Baseball Park shall be operated for the benefit and recreation of the general public and for the City. The park facilities shall not be operated for the private pecuniary gain of the LCAA, its officers, directors or members, present or future.

The LCAA shall make its corporate and financial records available to the City upon reasonable request and permit the City to audit such records. The LCAA shall provide the City with annual financial statements detailing its operations and account to the City for its receipts and disbursements from operation of the Baseball Park facilities.

The City may designate a member of the City Council to sit on the Board of Directors of the LCAA and to attend all of its meetings.

B. Scheduling and Field Use.

The LCAA will manage the scheduling of baseball games at the Baseball Park.

The City will continue to be able to use the Baseball Park for civic events throughout the year and coordinate with the LCAA regarding scheduling of such events. Any member of the public wanting to reserve use of the Baseball Park for an event or activity other than, or in addition to baseball, must comply with the City of Loretto Park Reservation Rental Policy and receive prior approval from the City.

Leasing of the Baseball Park in connection with a business operated for profit is not permitted. Any agreements that the LCAA enters into with a third party to reserve use of the baseball fields may not exceed the term of this Agreement.

C. Concessions.

The LCAA shall be responsible for operating the concessions. LCAA may not sell or serve any alcoholic beverages other than 3.2 beer. LCAA shall be responsible for obtaining all required licenses and approvals. The LCAA shall be entitled to all revenues from concessions sales.

D. Utilities.

The City is responsible for sewer and water expenses for the Baseball Park concessions buildings. The City and LCAA will share the cost of water used for sprinkling the fields 50:50. The LCAA is responsible for the cost of electricity at the Baseball Park. The City will install a separate electric meter at the Baseball Park and bill the LCAA on an annual basis for electrical cost.

2. MAINTENANCE.

The LCAA shall be responsible for routine maintenance of the entire Baseball Park, including, but not necessarily limited to, mowing and maintaining the fields in good condition for playing baseball, mowing the area around the concession buildings and the hill along C.R. 19, cleaning the restrooms, storage and concession areas.

The City will purchase the materials necessary for field maintenance such as chalk, field paint, mound clay etc. The LCAA will reimburse the City for the cost of field maintenance materials at the end of baseball season based upon amount used.

The City's maintenance equipment may only be used by City employees or persons authorized by the City.

3. IMPROVEMENTS, REPAIRS AND ALTERATIONS

No improvements or alterations shall be made to the Baseball Park without prior review and approval by the City. Any improvements, regardless of how financed, will become the property of the City upon termination of this Agreement.

The City shall have the right of access to the Baseball Park at any time without prior notice to the LCAA and shall have the right to make whatever alterations, repairs or improvements the City deems necessary to the property and facilities without the need to obtain consent from the LCAA.

The City shall be responsible for repairs and maintenance to infrastructure, and for damage caused by storms, vandalism, water breaks etc.

4. COMPENSATION

In exchange for the operation and maintenance services performed by the LCAA under this Agreement, the LCAA shall be entitled to retain all concession revenues and fees charged for baseball field use.

5. INSURANCE

The City will provide property/casualty insurance to cover the full insurable value of the Baseball Park and structures. The LCAA will obtain insurance in an appropriate amount to cover the costs of its equipment, food products and all other personal property.

6. TERMINATION

Either party may terminate this Agreement by giving written notice to the other no later than February 1 of the current year.

7. GENERAL

A. Counterparts. This Agreement may be executed in any number of counterparts, with the same effect as if all parties hereto had signed the same document. All such counterparts shall be construed together and shall constitute one instrument.

B. Amendment. Any amendments to this Agreement must be made in writing and signed by an authorized representative of each party.

C. Entire Agreement. This Agreement is the entire agreement between the parties.

D. Severability. The provisions of this Agreement are severable. If any portion is, for any reason, held by a Court of competent jurisdiction, to be contrary to law or otherwise unenforceable, such decision shall not affect the remaining provisions of the Agreement.

E. Assignment. Neither party shall assign this Agreement, nor any interest arising hereunder, without the written consent of the other party.

Dated: 3/10/2016

CITY OF LORETTO

By: Kent Koch
Mayor

By: Mary K. Schmitz
City Clerk Treasurer

Dated: 3-14-16

LORETTO COMMUNITY ATHLETIC ASSOCIATION

By: Jen Schmitz
Its: President

By: Tom Kost
Its: Treasurer

Appendix E

MS4 Permit Application and SWPPP

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 Loretto *County: Hennepin
(city, county, municipality, government agency or other entity)

*Mailing address: 279 N Medina Street, Suite 260

*City: Loretto *State: MN *Zip code: 55357

*Phone (including area code): 763-479-4305 *E-mail: mschneider@ci.loretto.mn.us

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

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

*Title: Public Works Director

*Mailing address: 279 N. Medina Street

*City: Loretto *State: MN *Zip code: 55357

*Phone (including area code): 763-479-4305 *E-mail: jleuer@ci.loretto.mn.us

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

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

Title: Consulting MS4 Coordinator

Mailing address: Wenck Associates, Inc, 1800 Pioneer Creek Center

City: Maple Plain State: MN Zip code: 55359

Phone (including area code): 763-479-5131 E-mail: snelson@wenck.com

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: Jeff Leuer
(This document has been electronically signed)

Title: Public Works Director Date (mm/dd/yyyy):

Mailing address: 279 Medina Street

City: Loretto State: MN Zip code: 55357

Phone (including area code): 763-479-4305 E-mail: jleuer@wenck.com

***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

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.*

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:

   Section 412:30, Prohibiting Illicit Connections and Discharges to the City Storm Water System

   Direct link:

   (City code is available online at www.ci.loretto.mn.us. Under the Government tab, choose City Code Book.)

   ☐ 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:

Section 412 of City Code, Storm Water Pollution Prevention and Control, is intended to "control storm water pollution including soil erosion and sedimentation." Section 412:45, Storm Water Pollution Control Plan and Permit, requires applicants for building permits, subdivision approval, or permits to allow land-disturbing activity to submit a storm water polluton control plan to the city. At a minimum, the plan must conform to the MPCA's Phase II Rules. If the project will disturb one acre or more, the applicant must acquire a construction storm water permit from the MPCA before being issued a permit.

The City's Illicit Discharge Ordinance, section 412:30 (b), states that NPDES Storm Water Phase II permits are required for construction projects disturbing one acre or more. In addition, section 412:30 (h), Discharges in Violation of . . . Construction Activity NPDES Storm Water Discharge Permit, states that any person subject to an NPDES discharge permit "shall comply with all provisions of such permit."

Section 412:55, Application, states that permits to allow land-disturbing activity must include a site plan/SWPPP application, a site map with erosion control plan showing BMPs, a storm water pollution control plan, and, if necessary, evidence of a construction storm water permit from the MPCA.

Section 412:60, Site Plan/Storm Water Pollution Control Plan Addendum Application Form, requires particular information, including the names, addresses, and telephone numbers of applicants, contractors, subcontractors, preparers of the site map and erosion control/grading plan, and, if required,the registered engineer responsible for the soil engineering and engineering geology reports. The application form also requires a vicinity map showing the location of the site in relation to the surrounding area's watercourses and water bodies for the purpose of determining the adequacy of the erosion control/grading plan and any planned BMPs.

Direct link:

(City code is available online at www.ci.loretto.mn.us. Under the Government tab, choose City Code Book.)

☐ 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:

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:

(The consulting City engineer's site plan review checklist includes BMPs for construction site runoff control. Plans are also reviewed by the Pioneer-Sarah Creek Watershed Management Commission for effective runoff control.)

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:

Section 412:70, Soils Engineering Report, states than when such a report is required by the issuing authority, it shall include "measures for permanent soil stabilization after construction is completed."

Section 412:135, Implementation of Permits, states that the issuing authority may "require permittee to modify the grading plan or storm water pollution control plan and maintenance methods and schedules."

Section 412:140, Post Grading Procedures, requires an "Executed contract for maintenance and upkeep of final plan runoff and erosion control measures for a two year period."

Section 430, Subdivision Regulations, Subd. 6 (d) requires that a "complete and adequate drainage system for the subdivision shall be designed and shall include a storm sewer system or system of open ditches, culverts, pipes, and catch basins. Such system or systems shall be approved by the city engineer." Subd. 6 (e) (2) states that easements "shall be provided along each water course, drainage channel or wetlands . . . to provide proper maintenance and protection and to provide for storm water runoff and storage in the installation and maintenance of storm sewers as required by sound engineering principles. Such easements shall be dedicated to the city by appropriate language in the owner's certificate."

Direct link:

(City code is available online at www.ci.loretto.mn.us. Under the Government tab, choose City Code Book.)

☐ 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 responsibility, for structural stormwater BMPs not owned or operated by the permittee, when those responsibilities are legally transferred to another party. ☐ Yes ☒ No

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:

Within 12 months of the permit effective date, the City of Loretto will review its ordinances regarding post-construction stormwater management and update them as needed to address the permit requirements for Part B. 2, 3, 4, and 5 above (permit Part III.D.5.a.).

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:

B. Describe your ERPs:

The City of Loretto ordinances include enforcement provisions for illicit discharge detection and elimination, construction site stormwater runoff control, and post construction stormwater management. Enforcement options include issuing notices of violation, issuing enforcement measures,acting to abate any violations, revoking permits, and issuing fines and penalties,and pursuing criminal prosecution.

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

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

The City of Loretto at least annually reviews its storm drainage system map and inventory. If needed, the inventory and map are updated with new pipes, outfalls, stormwater ponds, or other features of its MS4.

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:

Within 12 months of the permit effective date, the City of Loretto will udpate its storm drainage system map and inventory to include unique ID numbers and geographic coordinates.

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:

Within 12 months of the permit effective date, the City of Loretto will record unique ID numbers and geographic coordinates for each feature in its inventory and will submit the Pond Inventory Form to the 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 Loretto's current program includes the following BMPs for MCM 1:

   1. Use quarterly newsletter to distribute educational materials: The city began including educational information about the six MCMs in its newsletters in 2003. By the end of each calendar year, at least one of the city's quarterly newsletters will include educational information on each of the six MCMs. The newsletter is sent to all residents and businesses in Loretto.

   2. Annual public meeting: As required by the previous permit, the city has held annual public meetings to discuss the SWPPP. The meeting has been advertised in the official newspaper at least 30 days before the meeting.

   3. Staff training: The City's previous SWPPP included the goal of training all Public Works staff annually on proper housekeeping practices to minimize pollution from city operations. The City will work with its engineering consultant to meet this goal through the new permit term.

   4. Use of City website to post stormwater information and phone number(s) to report illicit discharges.

   5. Provide a stormwater education flyer and related educational materials at City Hall.

   6. Maintain city signage about its ordinance requiring pet owners to clean up dog waste.

   7. Work with Pioneer-Sarah Creek Watershed Management Commission to develop and implement a joint Stormwater Educational Program: This goal was included in the City's previous SWPPP, but the joint program was not accomplished. In the next permit term, the City will work with the watershed commission informally to obtain educational materials.

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
Stormwater education through city newsletter (A.1. #1 above)	The city continues to meet its goal to include information about each of the MCMs in at least one of its quarterly newsletters each year. The City also plans to survey its citizens annually to determine the effectiveness of this BMP. Its goal is to increase the number of positive responses annually.
Annual public meeting (A.1. #2 above)	The city held annual public meetings through 2013 and plans to offer them for the length of the new permit term.
Staff training (A.1. #3 above)	With the help of its engineering consultant, the City's Public Works staff will be trained annually regarding stormwater pollution prevention.
Use of website to post stormwater information (A.1. #4 above) (www.ci.loretto.mn.us, Utilities tab, Stormwater link)	The city website has a stormwater page that is updated annually or as needed to include current information, including phone number(s) to report illicit discharges. Citizens will be surveyed annually to determine the effectiveness of this BMP, with the goal of increasing the number of positive responses annually. Formal complaints regarding illicit discharge are documented and tracked.
Educational materials at City Hall (A.1. #5 above)	The City continues to make educational information (flyers, brochures, etc.) available at City Hall. Citizens will be surveyed annually to determine the effectiveness of this BMP, with the goal of increasing the number of positive responses annually.
Maintain signage regarding dog waste (A.1. #6 above)	The City will survey citizens annually to ask if they are aware of the City's ordinance regarding pet waste. The goal is to increase the number of positive responses annually.
Coordinate education with Pioneer-Sarah Creek WMC (A.1.#7 above)	The goal of a formal joint program was not accomplished, but the City plans to work with the Watershed Commission informally to obtain educational information about stormwater pollution.

BMP categories to be implemented	Measurable goals and timeframes
Selection of high-priority topics.	By January 31, the City will select at least one high-priority topic, in addition to illicit discharge, to emphasize in its education program. By February 28, the City will develop a plan to provide information about those topics at City Hall, on its website, or in its newsletters (or all of these).
Review effectiveness of educational program	By February 28, the City will develop a survey for residents and businesses to ask about the effectiveness of its educational BMPs. The survey will be distributed annually with the goal of increasing the number of positive responses each year.

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

   Mary Schneider, City Clerk Treasurer

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 conducts an annual meeting to solicit public input on its SWPPP, which is posted on its website. The City provides the required public notice (30 days) and has a process to consider any public input received.

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
Comply with public notice requirements	The City of Loretto has complied with the required 30-day public notice and intends to do so for future public meetings.
Hold annual public meeting to solicit input on SWPPP	The City has held annual meetings each year and plans to continue doing so during the new permit term.
Consider public input	Through the minutes of the public meeting, the City documents any public input (written or oral) received regarding its SWPPP. The City will continue to consider updating its program in light of any public input received.

BMP categories to be implemented	Measurable goals and timeframes

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:

   Mary Schneider, Clerk Treasurer

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:

   The City of Loretto practices the following BMPs for MCM 3:

   1. Storm sewer system map: The City has completed a storm sewer system map and reviews it at least annually for any needed changes.

   2. Illicit Discharge Detection and Elimination (IDDE) ordinance: Section 412:30, Prohibiting Illicit Connections and Discharges to the City Storm Water System, was adopted in 2005.

   3. Illicit Discharge Inspection Plan: Potentially illicit discharges into the City's storm sewer system are detected visually during routine inspections and investigated to determine the source. The City will identify high-priority areas for illicit discharge and will develop written procedures to investigate, eliminate, respond to, and document illicit discharges.

   4. IDDE information program for the public and employees: The City includes information about illicit discharges in the City newsletter, handouts, and on its website. Public Works staff will be trained to recognize and respond to illicit discharges.

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 ☐ Yes ☒ No

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.

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:

Within 12 months of the permit effective date, the City will establish a training schedule for illicit discharge detection recognition and reporting. Also by that deadline, the City will identify priority areas for illicit discharge inspection and establish written procedures for investigating, locating, eliminating, and responding to illicit discharges, as required in 2 (c) - (g) above.

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 (C.1. #1 above)	The City continues to maintain a storm sewer system map. It is reviewed at least annually for any needed changes.
Illicit discharge detection and elimination ordinance (C.1. #2 above)	The City adopted an IDDE ordinance in 2005. The City will update the ordinance as needed to meet new requirements.
Illicit discharge inspection plan (C.1.#3 above)	The City continues its inspection program and will document any illicit discharges and follow-up actions taken.
Illicit discharge education for the public and employees (C.1.#4 above)	IDDE education will be planned for the new permit term. Public Works employees will be trained about illicit discharge detection and elimination.

BMP categories to be implemented	**Measurable goals and timeframes**
Identification of priority areas	Within 12 months of the permit effective date, the City will identify priority areas to inspect for potentially illicit discharges.
Written procedures and documentation	Within 12 months of the permit effective date, the City will develop written procedures to investigate, locate, eliminate, and respond to illicit discharges.
Illicit discharge education and training	Within 12 months of the permit effective date, the City's existing educational program will be revised to include expanded training for Public Works employees.

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:

   Within 12 months of the permit effective date, the City will develop procedures for recording keeping for its IDDE program.

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

   Jeff Leuer, Public Works Director

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 Loretto practices the following BMPs for MCM 4:

   1. Ordinance: As listed under Regulatory Mechanisms for construction site stormwater runoff control, the City has several ordinances addressing this permit requirement. These ordinances require the use of BMPs to manage the rate, volume,

and nutrient/sediment load of stormwater runoff, site erosion control, and establishment of buffer strips along wetlands and water courses. The City also operates a permit and inspection program to ensure implementation of these plans.

2. Erosion and sediment control BMPs: The City's building ordinances (cited previously) require erosion and sediment control BMPs at construction sites.

3. Waste controls for construction site operators: Through City ordinances (cited previously) and building permits, Loretto requires contractors to follow good housekeeping practices.

4. Site plan review procedure: The City requires site plan reviews through its development review process. Site plans must include BMPs for sediment and erosion control.

5. Procedures for receipt and consideration of reports of stormwater noncompliance: Phone numbers and email addresess are published on the City's website and are available to report potential erosion control violations. City staff coordinate investigation of complaints with other local officials (the code enforcement officer, for example) and maintain a formal complaint tracking system.

6. Procedures for site inspections and enforcement: To support and enforce its ordinances and building codes, the City operates a permit and inspection program for construction site stormwater runoff control.

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.

   Within 12 months of the permit effective date, the City will develop written procedures to meet the requirements of 2.c. and 2.d.above.

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 and building codes (D.1.#1 above)	The City assesses its ordinances and building codes as needed to comply with new permit conditions and to assist developers with designs that meet the requirements of the City's regulatory program.
Erosion and sediment control BMPs (D.1.#2)	The City assesses its regulatory program as needed with respect to the requirements for erosion and sediment control BMPs and inspections.

Waste controls for construction site operators (D.1.#3)	Through its ordinances and permitting program, it is the City's ongoing practice to require that contractors follow good housekeeping practices with respect to waste control.
Site plan review (D.1.#4)	The City continues to administer the site review process.
Procedures for reports of storm water noncompliance (D.1.#5)	The City continues to publish phone numbers and email addresses that are available to report potential erosion control violations and other issues of noncompliance. The City also continues to maintain a formal complaint tracking system.
Procedures for site inspections and enforcement (D.1.#6)	The City continues to operate its site inspection and building permit program, including, as needed, reassessment of the program for effective construction site stormwater management.

BMP categories to be implemented	**Measurable goals and timeframes**
Written procedures	Within 12 months of the permit effective date, the City will develop written procedures to meet the requirements in 2.c. and 2.d. above.

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

   Jeff Leuer, Public Works Director

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:

   The City of Loretto practices the following BMPs for MCM 5:

   1. Development and implementation of structural and/or non-structural BMPs: In its previous SWPPP, the City had a goal of developing or distributing fact sheets, standard detail sheets, and operations and maintenance information for common infiltration devices and BMPs to developers, contractors, and City staff. During the current permit term, this technical assistance will be provided through the plan review process conducted by the City engineering consultant.

   2. Regulatory mechanism to address post-construction runoff from new development and redevelopment: City ordinance 400:05, Building Code, adopts the Minnesota Building Code, including any and all of its stormwater provisions. In addition, City ordinance 412:140, Post-Grading Procedures, requires an "Executed contract for maintenance and upkeep of final plan runoff and erosion control measures for a two-year period." City ordinance 430, Subdivision Regulations, Subd. 6 (d), requires that a "complete and adequate drainage system for the subdivision shall be designed and shall include a storm sewer system or system of open ditches, culverts, pipes, and catch basins. Such system or systems shall be approved by the city engineer." Finally, Section 430 Subdv. 6 (e)(2) states that easements "shall be provided along each water course drainage channel or wetlands . . . to provide proper maintenance and protection and to provide for storm water runoff and storage in the installation and maintenance of storm sewers as required by sound engineering principles. Such easements shall be dedicated to the City by appropriate language in the owner's certificate."

   3. Long-term operation and maintenance of BMPs: The City's engineering consultant provides advice and technical assistance to developers and homeowners' associations to ensure provisions are made for long-term maintenance and operation of rate control and infiltration BMPs installed as part of a new development or redevelopment.

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.

Within 12 months of the permit effective date, the City will work with its engineering consultant to ensure that it has written procedures for 3a - 3d above.

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 nonstructural BMPs (E.1.#1 above)	Through the plan review process involving its engineering consultant, the City will offer developers and contractors technical assistance regarding structural and/or nonstructural stormwater BMPs.
Regulatory mechanism (E.1.#2 above)	The City continues to implement its ordinances and building codes. The City will evaluate its rules and regulations as needed to reflect new technology or regulations.
Long-term operation and maintenance of BMPs (E.1.#3 above)	With the assistance of the city attorney, Loretto establishes Developers' Agreements that would include long-term O & M provisions, ensuring that BMPs remain in good operating condition and maintain their removal efficiencies.

BMP categories to be implemented	Measurable goals and timeframes
Documentation of post-construction stormwater management	Within 12 months of the permit effective date, the City will ensure that its meets requirements for documenting post-construction stormwater management (Permit III.D.5.c.)

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

   Jeff Leuer, Public Works Superintendent

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:

   The City of Loretto practices the following BMPs for MCM 6:

   1. Municipal operations and maintenance program: The City has a program to control erosion and sedimentation from Cty-owned or -operated facilities.

   2. Street-sweeping program: The City has developed a street-sweeping program for all city streets and paved parking lots. These facilities are swept at least once a year, usually in spring as soon as weather allows and with a goal of sweeping all streets and paved parking lots within two weeks.

   3. Annual inspection of all structural pollution control devices: The City has developed a program to inspect all city-owned or -operated pollution control devices. The devices are inspected at least annually.

   4. Inspection of at least 50% of all MS4 outfalls, sediment basins, and ponds each year on a rotating basis. Inspection frequency is adjusted as needed.

   5. Annual inspection of all exposed stockpile, storage, and material handling areas. Maintenance and/or improvements are implemented as needed.

   6. Inspection follow-up procedures: The City repairs and controls erosion and sedimentation along storm water outfalls. Based on the outcome of inspections, the City will repair erosion, remove accumulated sediment, and maintain vegetation as necessary.

   7. Record-keeping for all inspections and responses to inspections: The City has a goal to maintain records of all

inspections, including inspection results, date, prior weather conditions, sediment and storage capacity remaining, and any maintenance performed or recommended.The City will continue to work with its engineering consultant to ensure inspection record-keeping meets permit conditions.

8. Evaluation of inspection frequency: The City will work with its engineering consultant to adjust inspection frequency as needed, depending on patterns of maintenance or repair

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:

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 O & M program (F.1.#1 above)	The City continues its O & M program and records number of projects completed.
Street-sweeping program (F.1.#2 above)	The City continues to annually solicit quotes and establish a contract for spring street sweeping.
Annual inspection of Structural Pollution Control Devices (SPCDs) (F.1.#3 above)	The City continues annual (or more frequent) inspections of SPCDs to ensure proper operation.
Inspection of minimum 50% of outfalls, basins, and ponds (F.1.#4 above)	The City continues this inspection schedule on a rotating basis. Inspections and any maintenance or repairs will be documented.
Annual inspection of stockpile, storage, and material handling areas (F.1.#5 above)	The City continues to inspect all such areas to ensure all are maintained to reduce or eliminate storm water pollution.
Inspection follow-up procedures (F.1.#6 above)	The City continues to make emergency repairs of its MS4 as soon as possible and non-emergency repairs within one year of discovery. Known erosion-prone areas are inspected soon after large storms.
Inspection record-keeping (F.1.#7 above)	The City will work with its engineering consultant to complete inspection reports and document responses taken for each regular and special inspection. Records will be retained for at least three years beyond the term of the permit.
Evaluation of inspection frequency (F.1.#8 above)	The City plans to annually assess whether its inspection activities and frequencies are adequate to ensure proper operation and pollution prevention. Inspection frequency is adjusted as necessary.

BMP categories to be implemented	**Measurable goals and timeframes**
Quarterly inspection of stockpile, storage, and material handling areas.	Within 12 months of the permit effective date, the City will establish a quarterly schedule for inspection of stockpile, storage, and material handling areas.
TSS and TP effectiveness of storm water ponds	Within 12 months of the permit effective date, the City will establish procedures and a schedule to determine the TSS and TP treatment effectiveness of its storm water ponds.
Inspection record-keeping	Within 12 months of the permit effective date, the City will work with its engineering consultant to ensure it has procedures in place regarding inspection procedures, including inspection frequency adjustments and record-keeping.
Stormwater management training program	Within 12 months of the permit effective date, the City will work with its engineering consultant to develop and implement a training program consistent with Permit part III.D. 6.g.

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:

   Within 12 months of the permit effective date, the City will work with its engineering consultant to 1) develop procedures and a schedule to determine TSS and TP effectiveness of City-owned or -operated stormwater ponds, 2) establish inspection procedures that meet the requirements of Permit part III.D.6.e.1-3, 3) establish procedures for documenting inspections, maintenance and training as required in Permit part III.D.6.h.1-5, and 4) develop and implement a training stormwater management training program consistent with Permit part III.D.6.g.

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

    Jeff Leuer, Public Works Director

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 F

Community Options for Water Infrastructure Financing

Minnesota community options for water infrastructure financing

Managing wastewater, stormwater and drinking water supplies is important for the health and safety of any community. It can also make a difference to a community's growth potential and environmental value, in terms of attracting new businesses, new residents and additional visitors. Achieving solutions is a complicated journey, requiring several steps to reach the destination. This flyer addresses one of the major steps – financing. Following is an outline of financing options for public entities. Use this matrix as a guide for researching financial options. Examine the requirements for each program and see if your entity qualifies. If so, contacting the funding agency is the first step toward an affordable solution that protects health and safety while enhancing your community.

Program	Objective	Applicant	Uses	Population	Terms/conditions
MINNESOTA PUBLIC FACILITIES AUTHORITY	**Minnesota Public Facilities Authority** Becky Sabie, PFA Program Coordinator 651-259-7470 Rebecca.Sabie@state.mn.us http://mn.gov/deed/government/public-facilities/funds-programs/				
Minnesota Pollution Control Agency	**Minnesota Pollution Control Agency** Bill Dunn CWRF Program Coordinator 651-757-2324 bill.dunn@state.mn.us www.pca.state.mn.us/ppl				
Clean Water Revolving Fund (CWRF) Minn. R. ch. 7077, Minn. Stat. § 446A.07 and 116.16	**Loans** for municipal wastewater and stormwater projects.	Cities, counties, townships, sanitary districts. Projects must be listed on the Minnesota Pollution Control Agency (MPCA) project priority list (PPL) and Public Facilities Authority (PFA) Intended Use Plan.	Build, repair and improve public wastewater or stormwater systems.	No cap or minimum.	Below market interest rates, repayment period is 20 years and, in some cases, 30 years.

Program	Objective	Applicant	Uses	Population	Terms/conditions
Point Source Implementation Grant (PSIG) Minn. Stat. § 446A.073	**Grant** funds for projects: 1. Required by a total maximum daily load (TMDL). 2. To achieve 1 mg/L or less phosphorus discharge limit. 3. Meet water quality based effluent limit. 4. Achieve 10 mg/L or less nitrogen for land based systems.	Cities, counties, townships, sanitary districts. Must be listed on the MPCA PPL. Drinking water projects must also be on the Minnesota Department of Health (MDH) PPL. Applications due in July.	Build, repair and improve public water infrastructure to comply with objectives.	No cap or minimum.	Provides up to 50% of eligible PSIG costs up to $3 million maximum.
Small community – Technical assistance Minn. Stat. § 446A.075	**Grant** funds to determine options and feasibility for non-complying Subsurface Sewage Treatment System (SSTS).	Cities, counties, townships, sanitary districts. Must be listed on the MPCA PPL.	Conduct site evaluations, and analyze feasibility of installing new individual or community soil based systems.	Intended for small communities but no cap or minimum.	Grant is $20,000 plus $1,000/household not to exceed $60,000.
Small community – Construction Minn. Stat. § 446A.075	**Loan** and **grant** funds to build community soil- based treatment systems in unsewered areas where private fixes are not feasible.	Cities, counties, townships, sanitary districts. Must be listed on the MPCA PPL.	Build publicly owned individual and community SSTS to fix problems in unsewered areas.	Intended for small communities but no cap or minimum.	$2,000,000 maximum assistance. One percent interest, maximum loan term is 20 years. Grant assistance is based on affordability.

Program	Objective	Applicant	Uses	Population	Terms/conditions
MINNESOTA PUBLIC FACILITIES AUTHORITY	**Minnesota Public Facilities Authority** Becky Sabie Program Coordinator 651-259-7470 Rebecca.Sabie@state.mn.us http://mn.gov/deed/government/public-facilities/funds-programs/				
MDH Minnesota Department of Health	**Minnesota Department of Health** Chad Kolstad DWRF Program Coordinator 651-201-3972 Chad.Kolstad@state.mn.us http://www.health.state.mn.us/divs/eh/water/dwrf/				
Drinking Water Revolving Fund (DWRF) Minn. R. ch. 4720, Minn. Stat. § 446A.081	**Loans** for community public drinking water infrastructure projects.	Cities, regional and rural water systems, and community public water supplies. Projects must be listed on the MDH PPL and PFA Intended Use Plan.	Build, repair and improve public drinking water infrastructure.	No cap or minimum.	Below market interest rates, repayment period is 20 years, in some cases, 30 years.
Point Source Implementation Grant Minn. Stat. § 446A.073	**Grant** funds for projects: 1. Required by a TMDL. 2. To achieve 1 mg/L or less phosphorus discharge limit. 3. Meet water quality based effluent limit. 4. achieve 10 mg/L or less nitrogen for land based systems.	Cities, counties, townships, sanitary districts. Must be listed on the MPCA PPL and the MDH PPL. Applications due in July.	Build, repair and improve public water infrastructure to comply with objectives.	No cap or minimum.	Provides up to 50% of eligible PSIG costs up to $3 million maximum.

Program	Objective	Applicant	Uses	Population	Terms/conditions
	**U.S. Department of Agriculture Rural Development (USDA RD)** Terry Louwagie Community Programs Director 651-602-7810 Terry.Louwagie@mn.usda.gov **Contact information** for regional offices: http://www.rurdev.usda.gov/MN-Community%20Programs.html				
Water and waste disposal	**Direct loan and grant:** Provides wastewater financing in rural areas to the most financially needy applicants, resulting in reasonable user rates.	Public entities, Indian tribes and non-profit corporations. Apply to Rural Development.	Build, repair and improve public wastewater collection and/or treatment systems. Also other related costs.	Rural areas, cities and towns with up to 10,000 population.	Interest rate is set quarterly based on an index of current market yields for municipal obligation. Repayment period is a maximum of 40 years. Grant funds may be available.
	**Minnesota Department of Employment and Economic Development** 651-259-7462 Federal funding administered by state agency Contact information for regional offices: http://mn.gov/deed/government/financial-assistance/community-funding/				
Small Cities Development Grant Program	Grant that addresses public facility needs, principally benefiting low to moderate income households.	Cities, townships and counties.	Public facility improvements, such as water systems, sewer systems.	Cities with a population under 50,000 and counties and townships with an unincorporated population of fewer than 200,000.	Maximum grant is $600,000. Must benefit low and moderate income persons or households.