

Comprehensive Surface Water Management Plan

Final Draft



SEH No. ROSEV 138266

March 6, 2018

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Acknowledgements

- City of Roseville City Council
- City of Roseville Parks and Recreation Commission
- City of Roseville Public Works, Environment, and Transportation Commission
- Rice Creek Watershed District
- Capitol Region Watershed District
- Ramsey-Washington Metro Watershed District
- City of Roseville Public Works Department and Engineering Division

Executive Summary

Purpose

This primary purpose of this plan is twofold. First, the Plan serves to further define the goals and policies that the City will follow as it continues to implement a comprehensive surface water management program. These goals and policies have been developed to support and facilitate the City in achieving the community vision and to shape the character and enhance the quality of life as described in the 2040 Comprehensive Plan. Secondly, the Plan serves to meet state and local regulatory requirements.

There are two primary programs that establish the regulatory need to update the City's Comprehensive Surface Water Management Plan. First, Minnesota Statutes, Sections 103B.201 to 103B.255 and Minnesota Rule, Chapter 8410 comprise the State's Metropolitan Surface Water Management Program (MSWMP). These Statutes and Rules require the preparation of watershed plans by watershed management organizations (WMOs) and the preparation of local (City) water management plans.

The purposes of the water management programs required by Minnesota Statutes §103B.205 to 103B.255 are to:

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

A third regulatory program, very much related to the goals, policies and standards of this Plan, is the National Pollutant Discharge Elimination System (NPDES) Phase II Stormwater Permit Program for Municipal Separate Storm Sewer Systems (MS4) that is administered in the State by the Minnesota Pollution Control Agency (MPCA) (<http://www.pca.state.mn.us>). The goals, policies and standards of this plan were developed to be consistent with the requirements of the City's NPDES MS4 permit and associated Stormwater Pollution Prevention Plan (SWPPP) as well as the respective WMO plans. The implementation program included in this plan and the SWPPP are intended to be a coordinated effort to realize combined efficiencies.

Plan Development

This Plan builds on the previous Plans adopted by the City in 1990, 2003, and 2013. Each of those previous Plans established goals and policies, contained an assessment of issues and called for implementation actions to address those issues. This CSWMP was developed through a process of soliciting input from City Commissions, Council and the public on water resources issues, specific problem areas and potential new topic areas and/or actions that the plan should address. Input was obtained through a series of meetings and providing plan information on the City's stormwater web page. A summary of those efforts follows:

- Public Works, Environmental and Transportation Commission Meetings
- Electronic Public Survey
- Online Discussion Forum on speakuproseville.org
- Public Open House Meeting

Executive Summary (Continued)

- City Council Review and Adoption of the Plan

Sustainability

Roseville is committed to the preservation and enhancement of its environment, and to the principle that each generation of residents must meet the needs of the present without compromising the ability of future residents to meet their own needs. This approach to sustainability is a thread that is woven throughout the City's Comprehensive Plan. Upon adoption of this Comprehensive Surface Water Management Plan (CSWMP) by Council, the CSWMP will become an integral component of the City's Comprehensive Plan. As in the Comprehensive Plan, this CSWMP will serve as a guide towards improving sustainability across all aspects of the City's surface water management program and activities.

Stormwater Management System

The City's storm sewer network and overall conveyance and treatment system is in place. Future changes to the system will primarily involve retrofitting to address flooding problems, to incorporate water quality treatment, or incorporate improvements at the time of redevelopment. This public storm sewer system consists of:

- 129 miles of pipe,
- 4863 catch basins,
- 2691 manholes,
- 129 public ponds,
- 165 special features (infiltration, biofiltration, water reuse, raingardens, etc.)
- 657 inlets and outlets, and
- six public storm-sewer lift stations.

Water Resources

Roseville has a significant number of lakes, ponds, and wetlands within its boundaries. As shown in the table below, five of the six lakes within the City are classified as impaired for one or more pollutant or stressor. These impairments mean that the lake water is not meeting state water quality standards established by the Minnesota Pollution Control Agency (MPCA). The Federal Clean Water Act (CWA) requires that states establish total maximum daily loads (TMDLs) of pollutants to water bodies that do not meet water quality standards. Therefore, in the years ahead each of these impaired waters will be subject to TMDL Study that will result in an implementation plan that establishes a list of actions that will be needed to eliminate or manage the impairment. The City will need to work closely with the MPCA and local watershed organizations during the development of the TMDL Implementation Plans. For more information about impaired waters and TMDLs see www.pca.state.mn.us.

Lake Name	Surface Area (Acres)	Watershed Area (Acres)	Affected Designated Use	Pollutant or Stressor
Bennett	25.6	780	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators
			Aquatic Consumption	Mercury in Fish Tissue
Little Johanna	17.0	1774	Aquatic recreation	Nutrient/Eutrophication Biological Indicators

Executive Summary (Continued)

Lake Name	Surface Area (Acres)	Watershed Area (Acres)	Affected Designated Use	Pollutant or Stressor
			Aquatic Consumption	Perfluorooctane Sulfonate (PFOS) in Fish Tissue
			Aquatic Life	Chloride
Josephine	111.3	782	Aquatic Consumption	Mercury in Fish Tissue
Langton (N&S)	16.5	241	NA	NA
McCarron	73	1240	Aquatic Consumption	Mercury in Fish Tissue
Owasso	366.6	2951	Aquatic Consumption	Mercury in Fish Tissue

Watershed Districts

The City of Roseville falls under the jurisdiction of three watershed management agencies. They are the [Rice Creek Watershed District](#) (RCWD), the [Ramsey-Washington Metro Watershed District](#) (RWMWD), and the [Capitol Region Watershed District](#) (CRWD). All three of the Watershed Districts have jurisdictional authority within the City, and therefore each must review and approve the City's Plan to ensure consistency with the respective Watershed District Plan.

Goals and Policies

The following table summarizes the goals related to surface water management in the City of Roseville. These goals are a reflection of the City Council's desire to reach and sustain a high quality of life for the City's residents.

Goal	Goal Statement
Goal 1 – Flood Protection and Runoff Management	Provide flood protection to the maximum extent practicable for all residents and structures and to protect the integrity of our drainage and detention systems through stormwater management
Goal 2 – Surface Water Protection	Maintain or improve the water quality and ecological integrity of the City's lakes, ponds, and wetlands.
Goal 3 – Groundwater Protection	Protect the quality and quantity of groundwater through collaboration with local and state agencies managing groundwater resources
Goal 4 – Public Education and Outreach	Promote stewardship and increase awareness of land and water resources through public education and outreach.
Goal 5 – Pollution Prevention and Maintenance	Protect the quality of the City's water resources through pollution prevention, good housekeeping practices, and routine maintenance.
Goal 6 – Coordination and Collaboration	To simplify and streamline processes and draw upon the expertise and resources of other local, state, and federal agencies in water resources management efforts.
Goal 7 – Sustainability	Achieve the water quality and water resources needs of the City based on the foundation of efficient use of community

Executive Summary (Continued)

	resources. In this approach both capital costs and long-term operational costs will be considered as well as the overall costs of a given project towards protection and/or improvement of the City water resources.
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Issues Assessment

Over the years since the first plan was developed, the City has made significant improvements that reduce the extent of local flooding, provide water quality treatment benefits and improve educational opportunities for its residents. A few of these example projects are highlighted in the Plan.

Many of the flooding issues of the past have been addressed, but some remain. New water quality issues and concerns are emerging each year, requiring varying levels of effort by the City to address. And, the ongoing maintenance and operation of the stormwater system has grown much more complex over the years due to new regulations and a better understanding of what is necessary to keep the stormwater management systems functioning properly. Specific issues addressed in this plan include localized flooding issues, water quality impairments; operation and maintenance; and education, outreach and collaboration.

Implementation Program and Funding

The Implementation Program intended to provide guidance in carrying out the Plan goals and objectives. The Implementation Program and funding section summarizes capital improvement projects, studies and ongoing maintenance, inspection, monitoring and other management activities. This Plan is intended to serve the City for at least the next ten years and many of the program activities will continue at least out to the year 2030.

The Implementation Plan should be reviewed on an annual basis. At that time, each proposed improvement is to be reconsidered, City budgets adjusted, and additional improvement projects or management activities added to or removed from the program. The City currently has a storm drainage utility fee in place which funds stormwater management related costs such as educational programs, construction of treatment systems and maintenance of the overall stormwater treatment and conveyance systems (storm sewer maintenance and street sweeping). The charges and fees will be reviewed and adjusted annually to ensure adequate funding for the activities set forth in this plan and those required by law.

Table of Contents

Title Page
Acknowledgements
Executive Summary
Table of Contents

	Page
1.0 Introduction	1
1.1 Purpose	1
1.2 Plan Development	2
1.3 Sustainability and Resiliency	3
2.0 Physical Environment.....	3
2.1 Climate and Precipitation.....	3
2.2 Topography and Drainage	4
2.3 Soils and Geology	5
2.4 Land Use and Land Cover	5
2.5 Water Resources.....	8
2.5.1 Surface Water	8
2.5.2 Public Drainage Systems	10
2.5.3 Floodplains	10
2.5.4 Groundwater	10
2.5.5 Pollution Sources	10
2.6 Recreation, Fish, and Wildlife	11
3.0 Water Resource Management	12
3.1 County, State and Federal Agencies	12
3.2 Watershed Districts	13
3.3 City of Roseville.....	17
4.0 Goals and Policies	17
4.1 Flood Protection and Runoff Management.....	17
4.2 Surface Water Protection.....	19
4.3 Groundwater Protection.....	20
4.4 Public Education and Outreach	21
4.5 Pollution Prevention and Maintenance.....	22
4.6 Coordination and Collaboration	25
4.7 Sustainability	26
5.0 Issues Assessment.....	28
5.1 Resolved Issues & Past Project Examples	28
5.1.1 Upper Villa Park Stormwater Harvesting and Reuse	28
5.1.2 Rosewood Neighborhood Drainage Improvements	29
5.1.3 Aladdin Street Bioinfiltration Basin Retrofit Installation	30
5.1.4 Arona Pond Reconstruction	30
5.1.5 South Owasso Boulevard.....	30

Table of Contents (Continued)

5.1.6	William Street Pond	31
5.1.7	Lake McCarrons Alum Treatment.....	31
5.1.8	Villa Park Wetland Restoration.....	31
5.1.9	Gottfried's Pit Pump	31
5.1.10	Corpus Christi and Skillman Biofiltration Basins	31
5.2	Ongoing Issues	32
5.2.1	Nuisance Drainage Issues	32
5.2.2	Flooding Issues.....	32
5.2.3	Intercommunity Flow Issues.....	34
5.2.4	Water Quality Impairments.....	35
5.2.5	Operation and Maintenance	37
5.2.6	Education, Outreach and Collaboration.....	37
6.0	Implementation Program and Funding.....	37
7.0	Plan Adoption and Amendments	48
7.1	Formal Plan Review and Adoption.....	48
7.2	Amendment Process	49
7.2.1	Request for Amendments	49
7.2.2	Staff Review.....	49
7.2.3	Watershed District Approval.....	50
7.2.4	Council Consideration	50
7.2.5	Public Hearing and Council Action	50
7.2.6	Council Adoption.....	50

Table of Contents (Continued)

List of Tables

Table 1	Precipitation Event Frequency.....	4
Table 2	Existing Land Use	6
Table 3	Parks and Open Space	7
Table 4	Lake Data Summary.....	9
Table 5	Lake Water Quality Summary.....	9
Table 6	Watershed District Standards Summary	15
Table 7	Goal 1 – Flood Protection and Runoff Management	18
Table 8	Goal 2 – Surface Water Protection	19
Table 9	Goal 3 – Groundwater Protection	20
Table 10	Goal 4 – Public Education and Outreach	21
Table 11	Goal 5 – Pollution Prevention and Maintenance	24
Table 12	Goal 6 – Coordination and Collaboration	26
Table 13	Goal 7 – Sustainability	28
Table 14	Localized Flooding Issues	32
Table 15	Intercommunity Flow Summary	34
Table 16	Impaired Water Bodies Summary	35
Table 17	Waste Load Allocation Summary.....	36
Table 18	Water Resources Capital Improvement Program.....	40
Table 19	Implementation Program Activities	43

Table of Contents (Continued)

List of Figures

Figure 1	Location Map
Figure 2	Sub-watershed Map
Figure 3	Storm Sewer Map
Figure 4	Hydrologic Soil Group Map
Figure 5	Surficial Geology Map
Figure 6	Bedrock Geology Map
Figure 7	Current Landuse Map
Figure 8	2030 Planned Landuse Map
Figure 9	Land Cover Map
Figure 10	Parks and Open Space Map
Figure 11	Public Waters Inventory Map
Figure 12	National Wetlands Inventory Map
Figure 13	Impaired Waters Map
Figure 14	Special Flood Hazard Areas Map
Figure 15	Ground Water Protection Map
Figure 16	Pollution Sources Map
Figure 17	Watershed Districts Map
Figure 18	Past Project Examples Map
Figure 19	Ongoing Issues/Implementation Plan Map
Figure 20	Street Sweeping Sensitive Areas Map

List of Appendices

Appendix A	Acronym Dictionary
Appendix B	Development Standards
Appendix C	Applicable City Code
Appendix D	SWPPP
Appendix E	Water Resource Related Agreements
Appendix F	Local Drainage Issues

Comprehensive Surface Water Management Plan

Final Draft

Prepared for the City of Roseville, MN

1.0 Introduction

The City of Roseville (City) is an established suburban community of approximately 34,000 people in the northern Minneapolis/St. Paul metropolitan area. As an inner ring suburb, Roseville is conveniently located within close proximity to both downtown areas. The City is located in Ramsey County, Minnesota and is bordered by County Road D to the North, Larpenteur Avenue to the Southeast, Roselawn Avenue to the Southwest, Highcrest Road to the West, and Rice Street to the East (see Figure 1).

Roseville was incorporated as a city in 1948 and experienced dramatic growth in the 1950's and 1960's. Today, the City is almost completely built up and has achieved a stable population. It is expected, therefore, that the focus in the future will be on preservation, restoration and enhancement of natural resources and redevelopment of older parts of the City. This Comprehensive Surface Water Management Plan (CSWMP) will serve as a guide to protect the City's water resources, address current water resource related issues, and manage the surface water system throughout the City as redevelopment occurs.

1.1 Purpose

This primary purpose of this plan is twofold. First, the Plan serves to further define the goals and policies that the City will follow as it continues to implement a comprehensive surface water management program. These goals and policies have been developed to support and facilitate the City in achieving the community vision and to shape the character and enhance the quality of life as described in the 2040 Comprehensive Plan. Secondly, the Plan serves to meet state and local regulatory requirements.

There are two primary programs that establish the regulatory need to update the City's Comprehensive Surface Water Management Plan. First, Minnesota Statutes, Sections 103B.201 to 103B.255 and Minnesota Rule, Chapter 8410 comprise the State's Metropolitan Surface Water Management Program (MSWMP). These Statutes and Rules require the preparation of watershed plans by watershed management organizations (WMOs) and the preparation of local (City) water management plans.

The purposes of the water management programs required by Minnesota Statutes §103B.205 to 103B.255 are to:

- *Protect, preserve and use natural surface and groundwater storage and retention systems;*

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

A third regulatory program, very much related to the goals, policies and standards of this Plan, is the National Pollutant Discharge Elimination System (NPDES) Phase II Stormwater Permit Program for Municipal Separate Storm Sewer Systems (MS4) that is administered in the State by the Minnesota Pollution Control Agency (MPCA) (<http://www.pca.state.mn.us>). The goals, policies and standards of this plan were developed to be consistent with the requirements of the City's NPDES MS4 permit and associated Stormwater Pollution Prevention Plan (SWPPP) as well as the respective WMO plans. The implementation program included in this plan and the SWPPP are intended to be a coordinated effort to realize combined efficiencies.

1.2 Plan Development

This plan builds upon the City's previous Comprehensive Surface Water Management Plans (CSWMP) completed in 1990, 2003 and 2013. The 1990 CSWMP included detailed hydrologic TR-20 modeling for the entire City and the 2003 CSWMP focused on updating and translating the 1990 modeling into a HydroCAD® model and analyzing select problem areas in the City. For the 2013 plan update hydrologic/hydraulic modeling has been completed for problem areas as separate efforts and the focus was on pulling together existing information related to the City's surface water systems into one easy to use management tool.

This CSWMP was developed through a process of soliciting input from City Commissions, Council and the public on water resources issues, specific problem areas and potential new topic areas and/or actions that the plan should address. Input was obtained through a series of meetings and providing plan information on the City's stormwater web page. A summary of those efforts follows:

- Public Works, Environmental and Transportation Commission – 3 Meetings
- Electronic Public Survey
- Online Discussion Forum on speakuproseville.org
- Public Open House Meeting
- City Council Review and Adoption of the Plan

This CSMWP is organized into the following sections:

- Section 1.0 describes the plan purpose, organization and scope as well as sustainability and resiliency within the plan.
- Section 2.0 describes the physical environment including climate, drainage, soils, geology, land use, water resources, and wildlife.

-
- Section 3.0 describes the entities responsible for water resource management.
 - Section 4.0 describes the City’s goals and policies regarding surface water management.
 - Section 5.0 describes resolved and ongoing issues.
 - Section 6.0 describes the implementation plan and funding program.
 - Section 7.0 describes the plan adoption and amendment process.

1.3 Sustainability and Resiliency

Roseville is committed to the preservation and enhancement of its environment, and to the principle that each generation of residents must meet the needs of the present without compromising the ability of future residents to meet their own needs. This approach to sustainability is a thread that is woven throughout the City’s Comprehensive Plan. The City also recognizes the importance of resiliency which in a water resources context is the ability to adapt to climate-related variability and reduce the vulnerability of the community to extreme events. Upon adoption of this Comprehensive Surface Water Management Plan (CSWMP) by Council, the CSWMP will become an integral component of the City’s Comprehensive Plan. As in the Comprehensive Plan, this CSWMP will serve as a guide towards improving sustainability and resiliency across all aspects of the City’s surface water management program and activities.

This CSWMP includes sustainability and resiliency in three of the Plan sections including this introduction; Section 4.0 Goals and Policies; and Section 6.0 Implementation Program and Funding. These Sections of the Plan provide additional background on what sustainability and resiliency are and how it is a critical part of this Plan and what actions and approaches the City will take, related to its surface water management program, towards being more sustainable and less vulnerable.

2.0 Physical Environment

2.1 Climate and Precipitation

The climate of Roseville is considered to be continental and subhumid. Because of its location near the center of the North American continent the Twin Cities metropolitan area (and Minnesota) experiences a wide variation in climate conditions (e.g., droughts and floods, heat and cold). However, even with these wide variations, climatologists have found four significant climate trends in the Twin Cities area (Summary of Observed Changes in Twin Cities Climate, NOAA - Great Lakes Integrated Science and Assessments, 2014):

- Rising average temperatures
- Longer freeze-free season
- More precipitation
- More heavy precipitation

Estimates for the precipitation depth of a 24-hour duration event for various return frequencies are presented in Table 1. The table presents both the National Weather Service (NWS) historic (TP-40) and updated (Atlas 14) rainfall frequency estimates. The updated Atlas 14 estimates use a longer period of rainfall observations and state-of-the-art statistical methods.

Table 1
Precipitation Event Frequency

Return Frequency	Percent Probability	Historic Precipitation Depth (inches) ¹	Updated Precipitation Depth (inches) ²
1-year	100%	2.4	2.5
2-year	50%	2.8	2.8
5-year	20%	3.6	3.5
10-year	10%	4.2	4.2
25-year	4%	4.8	5.3
50-year	2%	5.3	6.3
100-year	1%	5.9	7.4

Sources:

(1) U.S. Weather Bureau's *Technical Publication No. 40* (Hershfield, 1961)

(2) NOAA Atlas 14, Volume 8 (2013)

In recent years, there has been more debate and discussion around the topic of rainfall depths and the frequency of larger storm events. As described in an issue paper on this topic prepared during the development of the Minnesota Stormwater Manual, precipitation in Minnesota has been rising since the 1930s. This increase is attributed to an increased frequency of heavy to extreme precipitation events (Karl and Knight 1998). The State Climatologist suggests that the amount of precipitation occurring as large events has been increasing in recent decades, and that about 100 years ago that fraction was similar to or even higher than what it is today.

The trends are changing and will likely continue to change. From a stormwater management and resiliency perspective, these changes in precipitation may require larger pipes and BMPs to capture, convey and treat the runoff from more intense events. The City will continue to monitor the outcomes of the changes in design guidance as well as review its standards for design of extreme event overflow areas for new and redevelopment projects.

2.2 Topography and Drainage

More than 10,000 years ago, Roseville evolved into a series of bluffs and upland hills that defined the adjacent lowlands, a network of drainage ways, lakes and marshes. The topography of northern Ramsey County (and Roseville) is irregular with ground elevations varying approximately 160 feet: from 1,000 feet above Mean Sea Level (MSL) near County Road B2 and Western Avenue to a low of 840 feet above MSL south of Lake McCarrons. Because of its topographic characteristics, the City of Roseville lies at the headwater of three subwatersheds:

- The western part of the City, which falls under the jurisdiction of Rice Creek Watershed District, drains northerly toward Rice Creek that drains into the Mississippi River. Flows leave the City and are transferred downstream through Ramsey County Ditch 4 and 5.
- The southeasterly part of the City drains to the south and east into the Trout Brook interceptor and then to the Mississippi River, a part of the Capitol Region Watershed.
- The east-central and northeast areas drain northeasterly into Lake Owasso which overflows into Grass Lake in Shoreview. This area is a part of the Ramsey-Washington-Metro Watershed District.

In order to better understand how the surface-water system works, the CSWMP divides the city into sub-watershed areas based on surface drainage features and the storm sewer system.

The City's sub-watershed areas are shown in Figure 2a-c. There are a total of 16 sub-watersheds within the City and two landlocked drainage areas. Volumes and rates of runoff are available from the respective watershed district hydrologic and hydraulic models and watershed management plans.

The City's storm sewer network and overall conveyance and treatment system is in place. Future changes to the system will primarily involve retrofitting to address flooding problems, to incorporate water quality treatment, or incorporate improvements at the time of redevelopment. This storm sewer system consists of:

- 129 miles of pipe,
- 4863 catch basins,
- 2691 manholes,
- 129 public ponds,
- 165 special features (infiltration, biofiltration, water reuse, raingardens, etc.)
- 657 inlets and outlets, and
- six public storm-sewer lift stations.

The citywide storm sewer map (Figure 3) shows the locations of the majority of these facilities and general direction of flow through the system.

2.3 Soils and Geology

A large portion of the landscape is dominated by Urban land-Zimmerman complex (859B) and Urban land-Hayden-Kingsley complex (860C), as identified in the Ramsey County Soil Survey. The Natural Resource Conservation Service (NRCS) also classifies soils by the Hydrologic Soil Group (HSG) based on estimates of runoff potential (Figure 4). These are:

- Hydrologic Soil Group A – Low runoff potential – high infiltration rate
- Hydrologic Soil Group B – Moderate infiltration rate
- Hydrologic Soil Group C – Slow infiltration rate
- Hydrologic Soil Group D – High runoff potential – very slow infiltration rate

The surficial geology consists of unconsolidated glacial sediments deposited during the Quaternary geologic period of two glacial ice lobes: the Superior lobe and the Grantsburg sublobe of the Des Moines lobe. The glacial deposits found in Ramsey County are primarily in the form of outwash, till, and stream and lake sediments ranging in thickness from 10 to 400 feet. Below the unconsolidated glacial sediment lies consolidated bedrock formed during the early Paleozoic age. Bedrock units from youngest to oldest in Roseville include: Decorah Shale, Platteville-Glenwood Formation, St. Peter Sandstone, Prairie Du Chien Group, and Jordan Sandstone. Maps of the surficial geology and bedrock geology from the Ramsey County Geological Atlas can be found on Figure 5 and Figure 6, respectively.

2.4 Land Use and Land Cover

The City of Roseville encompasses an area of 13.8 square miles which today is made up of mixed-land uses including established neighborhoods, parks and open space, and significant retail, commercial and industrial development. Some key aspects of the existing land use pattern are:

- Low-density residential is the dominant land use. This form of housing occupies more than 34% of Roseville's total land area.

- Roadways have been a major factor in shaping the development pattern of Roseville. Business (commercial and industrial) uses are primarily concentrated in the western third of Roseville, along the I-35W and Highway 36 corridors. Commercial areas can also be found along major street corridors (e.g. Rice Street and Snelling Avenue) and at major street intersections.
- Lakes, parks, and open spaces are defining characteristics of Roseville.

Table 2 provides a summary of the existing land use by category. For more detailed information about the future planned land-use refer to the most recent version of the City's Comprehensive Plan. Future land use changes are anticipated to consist primarily of infill and redevelopment compatible with surrounding neighborhoods and business districts.

Table 2
Existing Land Use

Land Use Category	Acres	% Total
Single-Family Detached	2913	32.9%
Single-Family Attached	177	2.0%
Manufactured Home Park	9	0.1%
Multifamily	291	3.3%
Business/Retail	526	5.9%
Office	205	2.3%
Industrial, Railroad, Utility	892	10.1%
Institutional	508	5.7%
Parks and Open Space	882	10.0%
Right of Way	1788	20.2%
Vacant	28	0.3%
Vacant Developable	92	1.0%
Lakes	549	6.2%
Total	8861	100%

Figure 7 and Figure 8 display the current and planned future land use maps which describe the activities that occur on a piece of land and the function that land serves. In contrast, the land cover is the characterization of the features covering the ground surface which can be either natural or manmade. The Minnesota Land Cover Classification System (MLCCS) is a vegetation oriented classification system designed to identify natural and cultural land cover types using a standardized methodology. Roseville's land cover map is shown in Figure 9 which also includes overlays of regionally significant ecological areas (RSEAs) and metro conservation corridors identified by the Minnesota Department of Natural Resources (DNR). The RSEAs are a result of a DNR assessment which identified places where intact native plant communities and/or native animal habitats occur. Metro Conservation Corridors are areas of natural lands identified for protection and restoration to establish habitat corridors, create buffers for existing protected land and increase public access to nature-related recreation.

Closely related to water resources management and land cover is the management of parks and open space throughout the City. Many of the parks and open spaces are located around the City's surface water resources and may provide opportunities for stormwater management. Table 3 lists the parks and open spaces throughout Roseville.

**Table 3
Parks and Open Space**

Park Name	Area (acres)	% of Parks Area	% of City Area	Address
City Parks – Owned				
Acorn	44.60	6.8	0.5	286 County Road C W
Applewood Overlook	2.42	0.4	0.0	1478 Terrace Drive W
Applewood Park	2.09	0.3	0.0	2838 Arona Street N
Autumn Grove	6.54	1.0	0.1	1365 Lydia Avenue W
B-Dale Fields	7.95	1.2	0.1	2100 Dale Street N
Bruce Russell	1.95	0.3	0.0	1175 Roselawn Avenue W
Central Park-Arboretum	18.97	2.9	0.2	2525 Dale Street N
Central Park-Dale West	16.98	2.6	0.2	2555 Dale Street N
Central Park-Lexington	63.47	9.7	0.7	2540 Lexington Avenue N
Central Park-North	17.47	2.7	0.2	816 Heinel Drive N
Central Park-Nature Center	52.28	8.0	0.6	2520 Dale Street N
Central Park-Victoria Ballfields	37.52	5.7	0.4	2490 Victoria Street N
Central Park-Victoria West	2.31	0.4	0.0	2495 Victoria Street N
Concordia	4.77	0.7	0.1	2394 Dale Street N
Cottontail	6.48	1.0	0.1	1281 County Road C2 W
Howard Johnson	9.56	1.5	0.1	1260 Woodhill Drive W
John Rose Oval	9.76	1.5	0.1	2661 Civic Center Drive N
Keller Mayflower	2.26	0.3	0.0	2070 Fernwood Street N
Ladyslipper	17.48	2.7	0.2	299 S Owasso Boulevard W
Langton Lake	62.72	9.6	0.7	3 park location/addresses
Lexington	8.18	1.2	0.1	2131 Lexington Avenue N
Mapleview	3.28	0.5	0.0	2917 Matilda Street N
Materion	8.51	1.3	0.1	225 Minnesota Avenue W
Memorial Park	NA	NA	NA	2660 Civic Center Drive N
Oasis	15.37	2.3	0.2	1700 County Road C2 W
Owasso Hills	8.53	1.3	0.1	593 Owasso Hills Drive W
Pioneer Park	13.52	2.1	0.2	1966 Chatsworth Street N
Pocahontas	5.67	0.9	0.1	2540 Pascal Street N
Rosebrook	8.28	1.3	0.1	2590 Fry Street N
Sandcastle	3.43	0.5	0.0	3060 Patton Road N
Tamarack	6.93	1.1	0.1	1745 Farrington Street N
Valley	10.58	1.6	0.1	3110 Avon Street N
Veterans	3.59	0.5	0.0	1135 Woodhill Drive W
Villa	33.10	5.1	0.4	2055 Cohansey Boulevard
Willow Pond	14.88	2.3	0.2	1283 County Road B2 W
Woodhill	1.33	0.2	0.0	2724 Western Avenue N
Unnamed Parks	4.18	0.6	0.0	
Subtotal	536.96	82.0	6.1	
City Parks - Leased				
Evergreen	3.94	0.6	0.0	1810 County Road B W
Owasso Ballfields	4.40	0.7	0.0	2659 Victoria Street N
Reservoir Woods	109.42	16.7	1.2	1901 Alta Vista Drive N
Subtotal	117.76	18.0	1.3	
Golf Courses				
Cedarholm - City Owned	25.79		0.3	2323 Hamline Avenue N
Midland Hills Country Club	155.45		1.8	
Subtotal	181.24		2.0	
Ramsey County Parks				
Lake Josephine	75.37		0.9	
McCarrons	8.71		0.1	
Subtotal	84.08		0.9	

**Table 3 (Continued)
Parks and Open Space**

Park Name	Area (acres)	% of Parks Area	% of City Area	Address
Open Space				
City Open Space Other	3.57		0.0	
County Open Space	48.50		0.5	
Open Space Ponding	62.61		0.7	
Open Space Cemetery	135.79		1.5	
Subtotal	250.47		2.8	
Total Parks/Open Space	1,170.51		13.2	

A map of the parks and open spaces in Roseville is displayed in Figure 10. Parks and open space have historically played an important role in managing stormwater in Roseville. Many of the parks and open space areas are built around ponds and water bodies, with many of these water bodies functioning as flood detention areas as well as providing water quality treatment. The City will continue to explore options for water quality improvement project on public land such as shoreline restorations, buffer establishment, and stormwater BMP retrofits. Parks play an important role in water resources management in the City.

As part of the planning process for the 2013 Plan update, Public Works staff met with the Parks and Recreation Commission to coordinate the problem areas and issues that need to be addressed and to discuss what opportunities city owned parks and open space may provide in the future for stormwater. The following major themes were identified during the 2013 Plan update:

- The Parks and Recreation Commission is supportive of continuing to collaborate with Public Works on incorporating stormwater features into city parks and open space areas where the improvements are feasible and practical and provide an opportunity to more efficiently use City funds to meet the regulator requirements and the goals of this plan.
- There was strong consensus that the City should not convert active park areas (e.g., soccer fields or other active play areas) to stormwater management functions. However, some discussion related to the potential for underground facilities that could serve both purposes. The cost effectiveness of the combined function would be a critical factor in the determining the feasibility of such systems.
- There was strong consensus that the parks and open spaces can and should play a key role in the educational aspects of the CSWMP. For example, a stormwater exhibit or example stormwater treatment features could be created at the Harriet Alexander Nature Center. This would better educate the public on the need for stormwater management throughout the City, and help them understand what their role can be in helping the City achieve its goals to manage stormwater and improve water quality.

2.5 Water Resources

2.5.1 Surface Water

Roseville has a significant number of lakes, ponds, and wetlands within its boundaries. Summary information on each of the priority lakes in the City is displayed in Table 4. Table 5 provides a summary of water quality data and the overall trophic state index (TSI) rating for the 2006 to 2015 growing seasons. The TSI is a number that rates the eutrophic level of the lake. Low TSI values generally correspond to clearer waters with lower nutrient concentrations (good water quality) and higher values correspond with poor clarity and

nutrient rich waters (poor water quality). Due to the varying nature of water quality data, detailed information on surface water assessment data is available through the MPCAs Environmental Data Access tool and may be accessed through the hyperlinks provided in Table 5.

Table 4
Lake Data Summary

Lake Name	DNR Identification Number	Watershed Area (Acres) ¹	Surface Area (Acres)	Maximum Depth (Feet)	Ordinary High Water
Bennett	62-0048	780	28	9	887.6 ²
Little Johanna	62-0058	1774	18	28	NA
Josephine	62-0057	782	116	44	884.4 ²
Little Josephine	62-0201	NA	10	25	NA
Langton (N&S)	62-0049	241	30	5	906.6 ³
McCarron	62-0054	1240	73	57	842.2 ²
Owasso	62-0056	2951	375	37	887.1 ²
Walsh	62-0214		8	NA	NA
Zimmerman	62-0053		12	NA	923.2 ³

Source: DNR Unless otherwise noted

Notes: ¹City of Roseville, ²MSL 1912 datum, ³NGVD 29

Table 5
Lake Water Quality Summary

Lake Name	Category	TSI	Transparency (meters)	Chlorophyll-a (µg/L)	Total Phosphorus (µg/L)
Bennett	Shallow Lake	66	1	30	119
Little Johanna	Lake	59	1	16	58
Josephine	Lake	53	2	12	30
Little Josephine		NA			
Langton (North)	Shallow Lake	59	1	12	56
Langton (South)	Shallow Lake	60	1	16	68
McCarron	Lake	44	3	4	16
Owasso	Lake	57	1	18	38
Walsh		NA			
Zimmerman		NA			

Source: MPCA

Notes: Values in bold font exceed state water quality standards. For the North Central Hardwood Forest Ecoregion the standard is <40 and <60 µg/L total phosphorus, <14 and <22 µg/L Chlorophyll-a, and >1.4 and >1.0 meters Secchi disk transparency for Lakes and Shallow Lakes, respectively. Exceedance of the total phosphorus and either the chlorophyll-a or Secchi disk transparency standard is required to indicate a polluted condition.

Figure 11 illustrates the Public Water Inventory (PWI) for the City with all water basins and watercourses that meet the criteria set in Minnesota Statutes, Section 103G.005, subd. 15. Additionally, Figure 12 illustrates the lake and wetland systems from the National Wetlands Inventory (NWI) program of the US Fish and Wildlife Service.

2.5.2 Public Drainage Systems

There are two county drainage systems within the City, Ramsey County Ditch (RCD) 4 and 5 as shown in Figures 3A-D. Under Minnesota Statute Chapter 103E, Rice Creek Watershed District is granted drainage authority of these systems. As the drainage authority, the RCWD has the legal right to reestablish the drainage system to the as-constructed and subsequently improved condition. RCD 4 drains portions of the City into Oasis pond and then Little Lake Johanna before existing the City jurisdictional boundaries. RCD 5 begins at the outlet of Wilson Lake and drains a portion of northwestern Roseville from Cleveland Ave N across I-35W into New Brighton and Jones Lake. In addition to the topographical drainage areas, Walsh Lake, a known land-locked basin located at the Midland Hills Golf Course is outletted by a storm sewer lift station which discharges to the St. Croix stormwater pond and ultimately flows through a series of open channels and pipes into the RCD 5 system. The lift station pump at Walsh Lake is controlled by floats at three elevations: pump on at the ordinary high water level of 926.07, pump off at the normal water level of 925.5, and high level alarm at 927.07.

2.5.3 Floodplains

Areas of Roseville prone to larger regional flooding near surface water sources have been identified and mapped by the Federal Emergency Management Agency (FEMA) through the National Flood Insurance Program (NFIP). Flood Insurance Rate Maps (FIRMs) for the City of Roseville were published on June 4th, 2010. Figure 14 displays the special flood hazard areas mapped by FEMA.

While the 1 percent chance flood hazard areas (Zones A and AE) are mapped in Figure 14, it is important to recognize that the areas designated as Zone X (the remaining portions of the City) may still have potential for flooding.

2.5.4 Groundwater

Roseville is served by the St. Paul Regional Water Services (SPRWS) which supplies drinking water to the City of St. Paul and neighboring communities. The St. Paul Regional Water Service is supplied primarily by surface water from the Mississippi River, but approximately 7% of all the water they provide is groundwater. In Ramsey County, both porous unconsolidated sand and gravel glacial deposits and fractured, weathered limestone or sandstone bedrock formations act as aquifers. The primary public drinking water aquifer is the Prairie du Chien-Jordan (Ramsey County Groundwater Protection Plan, 2009). In order to protect groundwater aquifers and public drinking water sources, the Minnesota Department of Health (MDH) delineates wellhead protection areas and drinking water supply areas which are shown in Figure 15. Because drinking water in the City is provided by the St. Paul Regional Water Service and the City does not own any public water supply wells, the City has not prepared a Wellhead Protection Plan. The MDH also maintains a database of known existing and abandoned wells available online through the [Minnesota Well Index](#).

2.5.5 Pollution Sources

Information on individual pollutant sources is available from the MPCA's "What's In My Neighborhood?" (WIMN) online tool. This detailed information has not been included here as it is subject to frequent change and may be obtained by calling the MPCA or by visiting the MPCA's website (www.pca.state.mn.us) which has information on various pollutant sources and related regulatory programs. A map identifying site locations (as of 02/28/17) is

displayed in Figure 16. The MPCA WIMN tool identified the following types of sites within the City of Roseville:

- Air Permits
- Hazardous Waste, Large Quantity Generators
- Hazardous Waste, Small to Minimal Quantity Generator
- Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) sites
- Unpermitted Dump Site
- Voluntary Investigation & Cleanup (VIC) Site
- Solid Waste, Permitted By Rule
- Leak Site
- Petroleum Brownfield
- Tank Site
- Construction Stormwater Permit
- Industrial Stormwater Permit
- Wastewater Dischargers
- Resource Conservation and Recovery Act (RCRA) Cleanup
- Superfund Projects
- State Assessment Site
- Multiple Activity sites

Besides the aforementioned individual pollutant sources, non-point source pollution also plays a significant role in water quality. This cannot be traced to a single source but is a pollutant load that is attributed to the surface runoff from a watershed which contributes to a surface water or groundwater source. Further information on non-point source pollution can be found in Sections 4.2 and 4.5.

2.6 Recreation, Fish, and Wildlife

The City manages a variety of recreation, leisure and sport facilities and offers more than 1,000 annual recreation and leisure programs and events. Along with many athletic programs, the City also offers recreational opportunities to connect to the nature and wildlife through a sample of the following programs:

- Family fishing clinic
- Minnesota Horticultural Society gardening classes
- Harriet Alexander Nature Center naturalist programs
- Kids Gardening Club

The natural communities that remain in Roseville are largely located in city parks and around lake and wetland edges and buffers. The major natural community types in Roseville are:

- Prairie and Savanna Communities: Sand-Gravel Prairie, Sand-Gravel Oak Savanna, Mesic Prairie and Wet Prairie
- Forest Communities: Dry Oak Forest, Mesic Oak Forest, Oak Woodland-Brushland, and Lowland Hardwood Forest

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- Wetland Communities: Deep Marshes, Shallow Marshes, Wet Meadows, Shrub Swamps, Wooded Swamps, and Seasonally flooded basins.

For more information on each of the natural community classifications refer to *Minnesota's Native Vegetation, A Key to Natural Communities* (Minnesota Department of Natural Resources, 1993) and *Wetland Plants and Plant Communities of Minnesota & Wisconsin* (Eggers and Reed, US Army Corps of Engineers, 1997).

Roseville is fortunate to have several lakes within the city that serve as important recreational and habitat resources. Langton Lake features a nature trail, an accessible fishing pier and is great for canoeing. Bennett Lake is great for shore fishing and features a new fishing pier with lowered rail sections making it easier for children to fish. It is stocked with walleye fingerlings, channel catfish yearlings, and large adult bluegills. Lake Josephine has public shoreline access at the Ramsey County park. Fishing at Lake Josephine has been limited to angling for bass, small bluegill and the occasional northern pike but stocking of walleye fingerlings is anticipated to provide additional angling opportunities.

Lake McCarrons has a fishing pier and designated shore fishing area along the south shore of the lake near the intersection of South McCarrons Boulevard and Western Avenue accessed by a flight of stairs. Lake McCarrons also has a public boat access and beach that are operated by Ramsey County. Lake Owasso is accessible by a Ramsey County owned boat ramp on North Owasso Boulevard but shore fishing is limited. Owasso is a managed Muskie lake, however, it is most popular with recreational boaters and water skiers.

3.0 Water Resource Management

This section of the CSWMP presents a synopsis of the current organizational entities whose programs and regulations are relevant to the management of water resources within Roseville. The City is committed to the preservation and enhancement of its water resources through full compliance with local, state, and federal regulations. Water Resource management related agreements that the City has entered into are available in Appendix E.

3.1 County, State and Federal Agencies

There are numerous County, State, and Federal agencies which play a role in managing water resources within the City. Among them are:

- [Federal Emergency Management Agency](#) – the Federal Emergency Management Agency (FEMA) operates the National Flood Insurance Program (NFIP). To participate in the NFIP and receive federally backed flood insurance, communities must adopt and enforce floodplain management ordinances to reduce future flood damage.
- [Metropolitan Council](#) – the Metropolitan Council is responsible for monitoring the metro area surface water quality, leading watershed planning through the authority provided by state law to review and comment on metro area watershed management organization (WMO) or watershed district (WD) plans and local water resources plans as part of local comprehensive plans, and collecting and treating wastewater for the Twin Cities metro area.
- [Minnesota Board of Water and Soil Resources](#) – the Minnesota Board of Water and Soil Resources (BWSR) relevant core functions include water resource planning with comprehensive land use planning, implementing the comprehensive local water management acts, and administering the Wetland Conservation Act.

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- [Minnesota Department of Health](#) – the Minnesota Department of Health (MDH) is responsible for operating the state’s drinking water protection program and implementing the federal Safe Drinking Water Act (SDWA) in Minnesota. The MDH produces source water assessments and drinking water supply management areas as well as aid in the development of local wellhead protection plans.
 - [Minnesota Department of Natural Resources](#) – the Minnesota Department of Natural Resources (DNR) is responsible for protecting public waters and managing water supply. It regulates activities below the ordinary high water level (OHW) of public waters and public waters wetlands through public water works permits. It also oversees and administers the National Flood Insurance Program (NFIP) for the State of Minnesota.
 - [Minnesota Department of Transportation](#) – the Minnesota Department of Transportation (MnDOT) Metro district is a designated MS4 and is responsible for stormwater pollution prevention within MnDOT right-of-way which included but is not limited to implementing proper erosion and sediment controls on construction sites, street sweeping practices, and analyzing low environmental impact de-icing measures. MnDOT also publishes standard specifications for construction related to erosion prevention and sediment control which many entities utilize.
 - [Minnesota Pollution Control Agency](#) – the Minnesota Pollution Control Agency (MPCA) is charged with administering the federal Clean Water Act (CWA) in Minnesota. Functions relevant to this CSWMP include regulating stormwater through the National Pollutant Discharge Elimination System (NPDES) permits (MS4, Industrial, and Construction), monitoring and assessing water quality, listing impaired waters, and conducting total maximum daily load studies/reports (TMDLs).
 - [Ramsey County](#) – the County Public Works Department monitors water quality in several lakes within the City each summer: Bennett, McCarrons, Owasso and Josephine and completes macrophyte surveys on each lake as part of the monitoring program on a 5-year cycle. The County Public Works Department also monitors beach water quality at the County beaches on McCarrons, Owasso and Josephine. The County also operates and maintains Gottfried Pit through a cooperative agreement with Roseville and Falcon Heights.
 - [Ramsey Conservation District](#) – the Ramsey Conservation District operates a groundwater protection program including observation well monitoring of groundwater levels, an erosion control program, watershed assessment services, and aquatic invasive species prevention programs. The RCD also provides technical support to residents wishing to install raingardens or restoration projects which protect surface waters.
 - [United States Army Corps of Engineers](#) – the U.S. Army Corps of Engineers permits all work in, over, or under navigable waters of the US under Section 10 of the federal Rivers and Harbors Act. Under Section 404 of the federal CWA, a Corps permit is also required for the discharge of dredged or fill material into waters of the U.S.
 - [United States Environmental Protection Agency](#) – the U.S. Environmental Protection Agency (EPA) enforces the federal CWA and SDWA, provides support for municipal wastewater treatment plants, and takes part in pollution prevention efforts aimed at protecting watersheds and sources of drinking water.

3.2 Watershed Districts

The City of Roseville falls under the jurisdiction of three watershed management agencies. They are the [Rice Creek Watershed District](#) (RCWD), the [Ramsey-Washington Metro Watershed District](#) (RWMWD), and the [Capitol Region Watershed District](#) (CRWD). The

geographical extent of each organization’s jurisdictional boundaries within the City of Roseville is shown in Figure 17. Note that the jurisdictional boundaries differ slightly from the hydrologic boundaries shown in Figure 2. While hydrologic boundaries represent where the water flows in different directions, jurisdictional boundaries generally follow parcel lines and road alignment to provide a more efficient approach to the administration of the watershed management organization programs.

All three of the Watershed Districts have jurisdictional authority within the City, and therefore each must review and approve the City’s Plan to ensure consistency with the respective Watershed District Plan. A generalized overview of the requirements of each organization is presented in Table 6. This is not intended to represent a full analysis of Watershed District rules, each organization should be contacted directly to obtain the most up-to-date information on their goals, policies, and rules. The City requests that all three watershed districts having jurisdictional authority within the City continue implementing its regulations and issuing permits within its jurisdiction in the City.

Table 6
Watershed District Standards Summary

Standard	Rice Creek Watershed District	Capitol Region Watershed District	Ramsey-Washington Metro Watershed District
Project size applicability	Projects disturbing greater than one acre of land or 10,000 square feet of land if within 300 feet of any lake, stream, wetland, or ditch.	Projects disturbing greater than one acre of land, or 10,000 square feet of land adjacent to a wetland, stream, public water, or public water wetland	Projects disturbing greater than one acre of land.
Water Quality	BMPs sized to treat runoff from 1.1 inches over the new or reconstructed impervious for all project except public linear project which shall treat 0.75 inches over new impervious surface	Stormwater BMPs shall remove 90% of total suspended solids from the runoff generated by a 2.5-inch rainfall event (NURP water quality storm).	Developments shall incorporate effective non-point source pollution reduction BMPs to achieve 90% total suspended solids removal from the runoff generated by a NURP water quality storm (2.5" rainfall).
Volume Control		Stormwater runoff volume reduction shall be achieved onsite in the amount of 1.1 inch of runoff from impervious surfaces.	Stormwater runoff volume retention shall be achieved onsite in the amount equivalent to the runoff generated from a 1.1 inch rainfall over the impervious surfaces of the development.
Rate Control	Peak stormwater runoff rates for the proposed project at the project site boundary, in aggregate, must not exceed existing peak runoff rates for the 2-year, 10-year and 100-year, 24-hour rainfall events. Within the Flood Management Zone the applicant shall provide peak rate control beyond the existing condition by reducing the peak rate to ≤80% of the existing condition.	Runoff rates shall not exceed existing runoff rates for the 2-year, 10-year, and 100-year critical storm events using Atlas 14 precipitation depths and storm distributions or as approved by the District.	Runoff rates for the proposed activity shall not exceed existing runoff rates for the 2-year, 10-year, and 100-year critical storm events using Atlas 14 precipitation depths and storm distributions or as approved by the District.
Wetland bounce/inundation	Permitted bounce and inundation period based on susceptibility classification of wetland (see Rule C paragraph 8).	Wetlands shall not be drained, filled wholly or in part, excavated, or have sustaining hydrology impacted such that there will be a decrease in the inherent (existing) functions and values of the wetland.	All stormwater must be treated to the water quality standard outlined in Rule C.d.3 before discharge to a wetland.

Standard	Rice Creek Watershed District	Capitol Region Watershed District	Ramsey-Washington Metro Watershed District
Wetland buffer	N/A	A minimum buffer of 25 feet of permanent District approved non-impacted vegetative ground cover abutting and surrounding a wetland is required.	Wetland buffers shall be required for all developments adjacent to a wetland whether or not the wetland is located on the same parcel as the proposed development. See Rule E, Table 4 for average and minimum wetland buffer widths.
Flood control	No person may alter or fill land below the 100-year flood elevation of any public water, public water wetland or other wetlands without first obtaining a permit from the District. New structures and stormwater basins must be constructed so that the lowest floor and lowest entry elevations comply with district Rule C paragraph 9(g). Also see RCWD Rule E.	Placement of fill within the 100-year floodplain is prohibited unless compensatory storage is provided. All habitable buildings, roads, and parking structures on or adjacent to a project site shall comply with flood control and freeboard requirements (see Rule D, Table 3)	Placement of fill within the 100-year floodplain is prohibited unless compensatory storage is provided. All habitable buildings, roads, and parking structures on or adjacent to a project site shall comply with flood control and freeboard requirements (see Rule D, Table 3)
Erosion and Sediment Control	. Required for surface soil disturbance or removal of vegetative on 10,000 sf or more of land or if any part of the disturbed area is within 300 feet of and drains to a lake, stream, wetland or public drainage system. Must conform to the standards of the NPDES construction general permit	Erosion and sediment control measures shall meet the standards for the General Permit Authorization to Discharge Stormwater Associated With Construction Activity Under the NPDES Permit Program except where more specific standards are required.	Erosion and sediment control measures shall meet the standards for the General Permit Authorization to Discharge Stormwater Associated With Construction Activity Under the NPDES Permit Program except where more specific standards are required.
Illicit Discharge and Connection	No person shall discharge or cause to be discharged into a public drainage system within the District any materials, including but not limited to pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than stormwater.	No person shall discharge or cause to be discharged into the municipal storm drain system or watercourses any materials, including but not limited to pollutants that cause or contribute to a violation of applicable water quality standards, other than stormwater. The construction, use, maintenance or continued existence of illicit connections to the storm drain system without a District permit is prohibited.	No person shall discharge or cause to be discharged into the municipal storm drain system or watercourses any materials, including but not limited to pollutants that cause or contribute to a violation of applicable water quality standards, other than stormwater. The construction, use, maintenance or continued existence of illicit connections to the storm drain system without a District permit is prohibited.

3.3 City of Roseville

One of the primary means for the City to manage surface water is through this plan which is legally enforceable through city ordinances and standards such as Shoreland, Wetland, Stormwater Management and Floodplain Regulations. City code chapters and sections relevant to surface water management have been included in Appendix C. In addition to City ordinances, Roseville enforces stormwater design standards through development review, building permits and erosion control permits. For example, currently, all sites that are greater than 5,000 square feet or land adjacent to a water resource are required to get an Erosion Control Permit. Further detail regarding design standards can be found in Appendix B. Stormwater Management Standards can be updated as needed to keep up with state of the science, code/ordinance updates, and watershed regulations.

Enforcement of the City's ordinances and standards goes hand-in-hand with compliance with local, state, and federal regulations. Closely related to surface water management is the NPDES MS4 permit program. As of March 2003, all cities in the Twin Cities metropolitan area are permittees under the NPDES Phase II MS4 Stormwater permit and must therefore meet certain requirements related to stormwater pollution control. The six minimum control measures and associated BMPs of the NPDES MS4 program are included in the City's Stormwater Pollution Prevention Plan (SWPPP) found in Appendix D.

4.0 Goals and Policies

To support a high quality of life for the City's residents, protect the City's water resources, and promote sustainability and resiliency, the City has developed the following goals and policies. A **goal** is the specific end point which is desired and **policies** are guiding principles which altogether form a strategy to attain the goals. Plan standards (or stormwater development criteria) are an extension of the goals and policies that provide detailed criteria on stormwater management practices. This section of the CSWMP outlines goals and policies related specifically to surface water management in the City of Roseville.

4.1 Flood Protection and Runoff Management

Development and the related changes in land use can increase runoff rates and volumes due to additional impervious surface. As areas develop or redevelop at a higher density, stormwater runoff generally increases. In addition, and as discussed briefly in Section 2.1, changes in the characteristics of rainfall events are trending toward more intense rainfall and greater depth storms and the NWS is in the process of updating precipitation frequency estimates. Whatever the cause of more intense and greater depth storms, this increase in runoff rates and volumes can result in localized and/or large scale flooding issues in the downstream system. It is important to manage these increased runoff rates and volumes in order to strive to reduce flooding in the downstream system and to control the potential effects of erosive flows on streams and waterways.

As an established community with a developed environment, Roseville has dealt with and continues to deal with numerous flooding issues as a result of development altering the natural hydrology and infiltration characteristics of the land. These resolved and ongoing issues are further elaborated upon in Section 5.0.

The City of Roseville has policies and standards that require volume reduction and rate control for new and redevelopment projects. The City has also adopted a floodplain ordinance, and has adopted policies that regulate minimum building elevations that comply with Minnesota DNR recommendations for a 1' minimum freeboard between a structures

lowest floor and the 100-yr flood level. Freeboard is the vertical distance above a certain level (often the 100-yr flood level) which provides a factor of safety to compensate for unknown factors such as ice jams or debris clogging culverts. The City has developed the flood protection and runoff management policies listed in Table 7 to support the flood protection and runoff management goals of this Plan.

Table 7
Goal 1 – Flood Protection and Runoff Management

Goal Statement: Provide flood protection to the maximum extent practicable for all residents and structures and to protect the integrity of our drainage and detention systems through stormwater management.	
Policy No.	Goal 1: Flood Protection and Runoff Management – Policies⁽¹⁾
1	The City shall require runoff rate control for land disturbing activities exceeding one-half acre or creating/reconstructing an impervious area of 5,000 square feet or more.
2	The City shall require volume reduction for development and redevelopment projects in accordance with watershed district rules and City standards.
3	For development and redevelopment projects affecting on-going issue areas (see ongoing issues on Figure 19), the City shall require developers to incorporate practices to resolve a proportionate share of the problem through a reduction based on existing runoff volumes.
4	The City shall require structure freeboard elevations in accordance with watershed district rules and City code (Section 1017.17) .
5	The City shall enforce its Floodplain regulations (City Code Chapter 1021) which are designed to minimize flood losses and requires no net loss of storage volume.
6	For newly constructed stormwater retention ponds, the City shall require an emergency overflow spillway to safely convey flows in excess of the 200-year (0.5% probability) event to the maximum extent practicable.
7	The City encourages reduction of, or minimizing increases in, the amount of impervious surface created as a result of land development or redevelopment activities through City Code, development review processes, and a stormwater utility fee.
8	The City shall cooperate and collaborate with adjacent municipalities and watershed districts to address intercommunity drainage issues.
9	The City shall seek to enhance or maintain existing drainage facilities in a sustainable manner taking into consideration available personnel, financial resources and system resiliency.
10	The City staff shall provide technical assistance as requested to aid in public understanding and interpretation of local flood protection and runoff management requirements

4.2 Surface Water Protection

The City of Roseville seeks to maintain and improve the water quality in its lakes, ponds and wetlands. Water quality is often directly related to the water clarity (suspended solids) and level of available nutrients in a water body. While nutrients comprise only one category of substances that can affect water quality, nutrients (principally phosphorous) must be controlled to achieve the water quality goals of this Plan. Phosphorous is most often the limiting factor for plant growth, and increases in available phosphorous allow plant species to dominate the lakes, ponds and wetlands.

Many people do not realize that when organic materials, like leaves, grass clippings, fertilizer and pet waste, enter a waterbody, they can disrupt the ecosystem. Once in the water these organic materials decay, releasing phosphorus. Excess phosphorus increases algae growth, inhibiting the growth of other aquatic plants. When algae die and decay, they exert a biological oxygen demand on the lake, depleting available oxygen for fish and other aquatic species. Limiting nutrient loading to surface waters is one of the keys to maintaining and improving water quality.

There are several activities that can be followed to minimize the delivery of suspended solids and phosphorus into the City's water bodies. These activities include better management of construction site erosion control measures, reducing the level of impervious cover, reducing the extent of managed lawn areas and replacing them with native vegetation, reducing bank erosion, and requiring more infiltration and volume control best management practices for stormwater treatment. Residents can also do their part by keeping grass clippings, fertilizer and pet waste out of the streets where it has a direct route into the storm sewer systems and ultimately into lakes, ponds, and wetlands.

To reduce the impacts to shoreland and wetlands the City as adopted a Shoreland, Wetland, and Stormwater Management ordinance. The purpose of the ordinance is to control and guide future development within and surrounding those land areas which are contiguous to designated bodies of public water and areas of natural environmental significance. Any water resource on property to be developed will be subject to these management policies, as well as the rules and requirements of the Wetland Conservation Act, the City and the watershed management organizations.

Table 8
Goal 2 – Surface Water Protection

Goal Statement: Maintain or improve the water quality and ecological integrity of the City's lakes, ponds, and wetlands.	
Policy No.	Goal 2: Surface Water Protection - Policies
1	The City shall enforce the Erosion and Sediment Control ordinance (City Code Section 803.04) for all land disturbing activity greater than 5,000 square feet or adjacent to a water resource.
2	The City shall require stormwater treatment through the Shoreland, Wetland, and Stormwater Management ordinance for land disturbing activities exceeding one-half acre or 5,000 square feet new impervious. The level of treatment provided shall comply with the infiltration/volume reduction standards of treating a runoff volume of 1.1 inches for new or reconstructed impervious by infiltration or if infiltration is not feasible remove 90% of total suspended solids and 60% of total phosphorus.

3	The City shall enforce the Shoreland, Wetland, and Stormwater Management ordinance to regulate alterations of shorelands and wetlands and to maintain existing aquatic, vegetation and wildlife conditions to the maximum extent possible.
4	The City delegates administration of the Wetland Conservation Act (WCA) to the Watershed Districts which will act as the Local Government Units (LGUs) for enforcing the regulations of WCA. The City shall be informed of and provide informal review of all wetland impacts within the City.
5	The City shall cooperate and collaborate with the MPCA and local agencies in conducting and implementing TMDL projects for impaired waters within and downstream of the City.

4.3 Groundwater Protection

Unlike surface water resources, which can be managed within well defined and limited physical boundaries, groundwater is a natural resource feature of large geographic areas. For this reason, groundwater must be managed by a local government agency that has authority outside of the City's jurisdiction. In Ramsey County, the Ramsey Conservation District has been delegated the responsibility to write and administer the Ramsey County Groundwater Protection Plan. Because drinking water in the City is provided by the St. Paul Regional Water Service and the City does not own any public water supply wells, the City has not prepared a Wellhead Protection Plan.

Table 9
Goal 3 – Groundwater Protection

Goal Statement: Protect the quality and quantity of groundwater through collaboration with local and state agencies managing groundwater resources.	
Policy No.	Goal 3: Groundwater Protection – Policies
1	The City will follow the Minnesota Department of Health's (MDOH) guidance on evaluation of stormwater infiltration projects in vulnerable wellhead protection areas (WHPAs) and drinking water source management areas (DWSMAs) to determine if infiltration practices are appropriate.
2	The City acknowledges the potential for stormwater infiltration practices to mobilize soil contaminants and shall support alternate volume reduction practices in areas of known or suspected soil contamination.
3	The City will cooperate with Ramsey Conservation District to develop and revise land-use regulations as necessary in DWSMAs to protect drinking water and public health.
4	The City shall encourage Low Impact Development (LID) to minimize imperviousness and promote naturally occurring groundwater recharge.
5	The City shall promote water conservation practices such as installing low-flow toilets, washing only full loads of laundry and dishes, and watering lawns and gardens only when needed and during the early morning or evening. A

	more comprehensive list of water conservation practices can be found on the City's website .
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4.4 Public Education and Outreach

Public involvement and outreach is a strategy and an effort that recognizes people want to be involved in decisions that affect any facet of their life. Public involvement creates opportunities for the residents and the general public to participate in the processes that impact them directly which often leads to more informed decision making. Public involvement also allows the City to reach residents that might be looking for educational information on water resources or opportunities to get involved in local improvement projects.

The City's web site is an alternative medium to provide municipal information to both City residents and those people who live outside Roseville. An electronic version of this Plan is accessible on the City's stormwater webpage. Because the Plan has such a wide audience, including engineers, planners, developers, citizens, scientists and educators; electronic access to the text and mapping creates a better understanding of the goals, policies and activities of this Plan, as well as links to previous studies and tools that will help to make better decisions on projects ranging from a development site plan to a backyard landscaping project.

The City will make an ongoing effort on both a City-wide and watershed level toward educating the public by distributing information to its residents on responsible practices they should employ to protect water resources throughout the City. The program can also educate residents on better land use practices such as the benefits of using phosphorus-free fertilizer and keeping grass clipping out of the streets. Educational information will also be provided regarding the proper use of a wide range of lawn chemicals and installing and maintaining rain water gardens.

Table 10
Goal 4 – Public Education and Outreach

Goal Statement: Promote stewardship and increase awareness of land and water resources through public education and outreach.	
Policy No.	Goal 4: Public Education and Outreach – Policies
1	The City will continue to implement an education and outreach program using a variety of media, including use of notices, mailings, local cable television, newsletters, articles in Roseville City News, web sites, workshops and/or presentations to inform the community about water resource issues.
2	The City will continue to conduct a public annual stormwater meeting as described in the City's SWPPP for the MS4 NPDES permit.
3	The City shall make this Plan available to the residents of Roseville and general public through the City's stormwater webpage. A hard copy of the plan will be available at the City Hall upon request.
4	The City will use a public involvement process in water resource management decision-making (i.e., through appointed Commissions and public meetings).
5	The City will make an ongoing effort on both a local and regional level by distributing information to residents on responsible practices to protect water

	resources such as alternative landscapes, phosphorus free fertilizer, aquatic plant management, proper use of a wide range of lawn chemicals and proper disposal of hazardous household materials etc.
6	The City will work with existing public and private resources to increase public participation in water resources management and disseminate information regarding each of the local watershed management organizations having jurisdiction within the City.
7	The City will cooperate with other organizations and consider establishment of model interpretative sites for public education.
8	The City will continue to educate elected officials and members of the general public on water resources management needs and issues.

4.5 Pollution Prevention and Maintenance

Housekeeping practices, such as removing leaves from streets and storm drains and limiting the use of phosphorus fertilizers, are examples of simple ways individuals (residents) and the City can prevent pollution and make improvements in water quality. Although suspended solids and nutrients are traditionally what come to mind regarding surface water quality pollutants, there are a number of other pollutants that harm surface waters and aquatic ecosystems. The following list summarizes additional water quality pollutants of concern to regional surface waters:

- **Chloride.** Chloride is a main component of most deicing products such as road salt. Once in the water, it is a conservative pollutant making it difficult to remove. It can be toxic to aquatic plants and organisms and can reduce or delay vertical mixing in lakes. Using properly calibrated equipment to apply deicing products is one of the ways City crews reduce the amount of chlorides applied to City streets.
- **Pathogens.** Pathogens are disease causing organisms such as *Giardia* and *Cryptosporidium*. They are difficult to identify and thus fecal coliform and *E. coli* bacteria are used to indicate the possible presence of pathogens. Sources are human, pet, livestock, and wildlife excrement.
- **Mercury.** Mercury is naturally occurring element which finds its way to surface waters primarily through atmospheric deposition. The primary regional source of atmospheric mercury is from burning coal. Once in the water, it is converted to methylmercury which bioaccumulates up the food chain and is a known neurotoxin which impacts the central nervous system. Several of the City's lakes are impaired for mercury resulting in fish consumption advisories.
- **Other heavy metals** (e.g. lead, zinc, copper and cadmium). Heavy metals are primarily found bound to suspended solids in stormwater and surface waters although they are also present in dissolved forms. They can be toxic in certain concentrations to animals and humans.
- **Polycyclic aromatic hydrocarbons (PAHs).** PAHs are a class of chemicals that harm fish and, with prolonged exposure, pose a risk of cancer in humans. Common sources are coal-tar based sealcoat, petroleum products and oil. A current challenge for many cities, including Roseville, is how to cost-effectively remove sediments from stormwater ponds that have PAH levels that require disposal at a landfill.

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- **Polychlorinated biphenyls (PCBs).** PCBs are a class of chemicals manufactured and commonly used from 1930 to 1979 in electrical and hydraulic products. They do not readily break down in the environment and bioaccumulate in organisms, fish, and ultimately humans who ingest the fish. The EPA and other organizations consider PCBs to be probable human carcinogens.
 - **Perfluorochemicals (PFCs).** PFCs are a family of chemicals used to make products resist heat, oil, stains, grease, and water. Examples of PFCs are perfluorooctane sulfate (PFOS) and perfluorooctanoic acid (PFOA) which are extremely resistant to breakdown in the environment and bioaccumulate in animals and humans. In animal studies high concentrations of PFCs have been shown to have adverse health effects but the effects in humans are still unclear.
 - **Endocrine disrupting compounds (EDCs).** EDCs are not a discrete class of chemicals but rather a chemical which mimics or blocks normal hormonal function in animals and humans (a process called endocrine disruption). In animals, exposure to EDCs has been associated with reduced reproductive success, reduced survival, altered sex typing, and developmental abnormalities. Potential EDCs include chemicals such as PCBs, polybrominated biphenyls (PBBs), bisphenol A (BPA), phthalates, and many others found in a range of products from pharmaceuticals and personal care products to pesticides.
 - **Aquatic nuisance and invasive species.** Aquatic plants such as Eurasian Watermilfoil and Purple Loosestrife have become well established throughout certain areas of the Twin Cities Metropolitan area and can create significant impacts to wetland and water resources if not managed. In addition, aquatic animals such as the Zebra Mussel can create nuisance problems in area lakes and have the potential to significantly alter the character and quality of the resource. The following link provides a thorough overview of some of the more prevalent aquatic invasive species in the region:
www.invasivespeciesinfo.gov.

Many of the pollutants listed above are either already in the environment (e.g. PCBs, PFCs) or are found in many commonly used products (e.g. Chloride, PAHs, EDCs) and are difficult to remove from the aquatic environment once introduced with traditional treatment methods. To avoid potentially expensive remediation/treatment costs associated with many of these pollutants, the City will need to take a proactive approach with prevention/reduction through considerable educational efforts and public policies.

Examples of efforts the City has already made towards pollution prevention include reducing road salt usage and prohibiting the use of coal-tar based sealers. The City also has an illicit discharge ordinance which prohibits illicit discharge of non-stormwater into the storm sewer system and intentionally disposing of grass, leaves, dirt, or landscape material into a water resource, natural conveyance, or street/road/alley.

The City can work with contractors to limit the spread of invasive species is through implementing best practices for pumping equipment. For example, where pump systems are used in City water bodies for a pond clean out project or dewatering, the contractor should be aware of the potential presence of Zebra Mussels in the water bodies where they previously used the equipment and take the necessary steps to decontaminate their equipment.

Complementing pollution prevention is performing routine maintenance of existing stormwater treatment and drainage systems. As sediment builds up over time, it reduces the capacity of drainage systems and the pollutant removal capabilities of ponds by reducing

dead storage volume (i.e., the volume below the outlet elevation). Sediment from erosion can also significantly reduce infiltration rates in basins or BMPs designed for volume control and/or groundwater recharge. Extending the life of these facilities involves source control and elimination of material that causes the problem, and maintenance of the systems on a regular basis. Better construction methods and maintenance efforts will control a major portion of the sediment at the source, and an effective street sweeping program will also have a positive impact.

Table 11
Goal 5 – Pollution Prevention and Maintenance

Goal Statement: Protect the quality of the City's water resources through pollution prevention, good housekeeping practices, and routine maintenance.	
Policy No.	Goal 5: Pollution Prevention and Maintenance – Policies
1	The City encourages residents to take advantage of the free Ramsey County yard waste collection and prevention sites, Roseville Leaf Recycling Center or backyard composting to prevent these potential sources of TSS and nutrients from reaching the storm sewer system and downstream receiving water bodies.
2	The City encourages residents to properly dispose of household hazardous waste (cleaning products, automotive fluids, lawn and garden chemicals, etc.) at a Ramsey County collection site to prevent these potential sources of pollutants from reaching the storm sewer system and downstream receiving water bodies.
3	The City prohibits non-stormwater discharges to the storm drainage system to the maximum extent practicable as described in the Section 803.03 (Stormwater Illicit Discharge and Connection) of the City Code . Illicit discharge of non-stormwater into the storm sewer system includes intentionally disposing of grass, leaves, dirt, or landscape material into a street/road/alley. Not cleaning up pet waste and disposing of it properly in the trash can also lead to illicit discharge.
4	The City shall conduct street sweeping at least three times a year. The first sweep shall be as soon as practical in the spring. Stormwater sensitive areas (as displayed in Figure 20) are priority and swept first throughout the year.
5	The City prohibits the use of coal tar-based sealer on asphalt driveways and parking lots within the City to prevent Polycyclic Aromatic Hydrocarbons (PAHs) present in coal tar from contaminated stormwater runoff and downstream receiving water bodies (City Code Chapter 410).
6	Appropriate City staff shall have training and equipment available to deal with small spills of hazardous material on City property. All spills which cause pollution of the air, land, or water resources must be reported immediately to the State Duty Officer at 651.649.5451.
7	Appropriate City staff shall have training on best management practices for the application of road salt and de-icing materials and shall reduce the amount of chlorides to the maximum extent practicable. The City also encourages

	property owners to reduce salt usage and offers tips to cut salt usage on the City website.
8	The City limits phosphate application within the City and prohibits application during certain periods and on impervious surfaces. The fertilizer ordinance (City Code Chapter 408) also includes licensing requirements for commercial applicators.
9	The City shall annually inspect and clean all structural pollution control devices. A minimum of 20 percent of the MS4 outfalls, sediment basins and ponds are inspected annually on a rotating basis in accordance with its SWPPP. Cleaning, sediment and debris removal will be performed as necessary.
10	The City requires private stormwater systems to be maintained in proper conditions consistent with the performance standards for which they were originally designed (City Code Section 1017.26 Subp. B.4). Clean up and removal of settled materials is required every five years.
11	The City will support state and watershed programs to limit the spread of invasive species and will encourage contractors to take the necessary actions to avoid the spread of invasive species.

4.6 Coordination and Collaboration

A successful surface water management program requires extensive coordination with the many regulatory agencies having jurisdiction in the City as well as close collaboration with the local watershed organizations and the developers proposing projects within the City. The best solutions are often found through combined efforts and from building on what others have learned from similar projects and/or similar management activities. Coordination and collaboration will be accomplished through a variety of methods including meetings and discussions with project partners and regulators on a project-specific basis; ongoing posting and updates of this plan on the City's webpage; posting design standards and historical surface water studies and resources on the City's webpage; and participating in organizational programs like the Public Works Forum and the Minnesota Cities Stormwater Coalition.

The three watershed management organizations (Capitol Region, Ramsey-Washington-Metro and Rice Creek) all have very active programs with a wealth of resources and staff to assist

the City towards meeting the goals of this plan. The watersheds have funding programs that can assist the City with its municipal projects as well as residents on their individual projects. The City will continue to collaborate with residents by providing an opportunity for residents to recycle yard waste and obtain compost and woodchips for landscape projects.

Table 12
Goal 6 – Coordination and Collaboration

Goal Statement: To simplify and streamline processes and draw upon the expertise and resources of other local, state, and federal agencies in water resources management efforts.	
Policy No.	Goal 6: Coordination and Collaboration – Policies
1	The City will endeavor to inform developers about Federal, State, and local stormwater management regulations including the NPDES requirements, watershed district rules, floodplain regulations, and WCA rules.
2	The City shall utilize educational materials and activities from watershed districts and other entities to deliver a consistent message regarding water resources and stewardship.
3	City staff will be encouraged to attend watershed district hosted education programs directed at municipal officials and staff.
4	The City shall seek opportunities to leverage limited available funding through project partnerships.
5	The City shall promote existing programs that support plan goals such as the leaf recycling center, which includes compost and woodchips for property owners to use for landscaping practices which promote infiltration.

4.7 Sustainability

Sustainability means many things to many people. For some it is an opportunity, for others it is an obligation, and in many cases, it is an expectation of communities, businesses and citizens. The most basic definition of sustainability is “meeting our current needs without sacrificing the ability of future generations to meet their own needs.” In a very basic sense, this is accomplished by balancing environmental, economic, and social (quality of life) considerations. A sustainable approach inherently achieves efficiencies that balance environmental, economic, and social demands.

An example of a sustainability policy the City has developed is the Complete Streets Policy. By integrating innovative and non-traditional design options and involving the local community and stakeholders, the policy permits flexibility in accommodating different modes of travel on existing streets to balance the needs of all corridor users. Complete street elements to be considered include: pathways, both on-road and off-road, crosswalks and crossings, stormwater drainage, trees and other landscaping options, lake widths, lighting, public transportation facilities, bicycle facilities, on-street parking, and environmental corridors and wildlife movement.

Another way the City of Roseville has incorporated sustainability is through the Parks and Recreation Renewal Program. The Parks Renewal program is a 3-year improvement program guided by the [Parks and Recreation System Master Plan](#) that allows community members to

plan for the future of Roseville's Parks and Recreation System. This is done through neighborhood meetings and implementation of park projects throughout the City. The goals of the renewal program include recreation systems management, redevelopment and rehabilitation, space acquisition, trail and pathway connections, recreation programs and services, community facilities, and natural resources management.

As mentioned previously in this Plan, *sustainability* is a thread that is woven throughout the City's Comprehensive Plan, and this CSWMP is an integral component of the City's Comprehensive Plan. As in the Comprehensive Plan, this CSWMP will serve as a guide towards improving sustainability across all aspects of the City's surface water management program and activities. Sustainability represents an approach that strives to achieve the most efficient use of community resources. It is a complicated concept that includes many facets of City government and includes areas such as waste reduction, water conservation, and carbon-emission reduction.

Nature is a good example to follow as it works to reduce runoff volumes by infiltration, reduce soil loss through vegetation, enhance habitat, and reduce pollutants in storm runoff by infiltration and biological uptake. When we develop land, we change the natural system. Often, we increase both the peak runoff rate as well as the volume of runoff. The increase in both developed runoff rate and volume can be harmful to downstream channels, resulting in degradation. This degradation has effects on habitat as well as water quality by increasing sediment loads.

In addition to channel degradation, we also introduce new sediment loads and pollutants into the natural system through the development process. During construction, we can introduce new sediment loads by exposing previously vegetated soil. After development is completed, we often see a whole new set of pollutants in storm runoff.

One example of how during development sustainability could be incorporated into construction site practices would be to use woodchips as a construction site entrance instead of rock. The woodchips not only help to remove the sediment from construction vehicles, but may also be reused elsewhere onsite at a later stage of construction for final restoration. Furthermore, woodchips could be made on-site from clearing and grubbing operations, thus reducing the energy use and costs associated with transporting rock to and from the site. Another sustainable construction practice example is using trenchless technologies to reduce the construction impacts to the ground surface thus reducing the area exposed to rainfall and the potential for sediment to enter surface waters in runoff.

The primary objectives of stormwater sustainability are to mitigate these changes to the natural system. The City goals and policies for sustainable stormwater management area listed in Table 13.

Table 13
Goal 7 – Sustainability

Goal Statement: Achieve the water quality and water resources needs of the City based on the foundation of efficient use of community resources. In this approach both capital costs and long-term operational costs will be considered as well as the overall costs of a given project towards protection and/or improvement of the City water resources.	
Policy No.	Goal 7: Sustainability – Policies
1	The City will use the Fall 2011 version of the Metropolitan Council Stormwater Reuse Guide as a guide in considering water reuse on City projects.
2	The City will strive to incorporate construction, building, and landscape designs and practices that mimic natural systems, and infiltrate, retain, detain rainfall onsite, or can reduce excess flows into our sewers, streets, and waterways on City infrastructure projects.
3	The City shall consider using trenchless technologies to reduce the impact on the ground surface and expose less disturbed area to erosion and runoff when appropriate.
4	The City shall consider using innovative BMPs and green infrastructure for stormwater treatment.
5	The City shall seek to collaborate efforts with the Parks Renewal Program and incorporate multi-use green space.
6	The City shall endeavor to incorporate pretreatment, treatment trains, and maintenance access for new and retrofit public stormwater treatment facility projects.
7	The City shall consider installing flow meters to monitor its water usage.

5.0 Issues Assessment

5.1 Resolved Issues & Past Project Examples

As discussed previously, this Plan builds on the previous Plans adopted by the City in 1990, 2003 and 2013. Each of those previous Plans contained an assessment of problem areas and called for implementation actions to address those issues. The following sections provide descriptions of past example projects and resolved issues. Figure 18 identifies the locations of the following examples.

5.1.1 Upper Villa Park Stormwater Harvesting and Reuse

Capitol Region Watershed District (CRWD), in partnership with the City of Roseville, led this project. The purpose of the project was to treat stormwater and store it for use as irrigation on the softball field at Upper Villa Park. The project protects Lake McCarrons and the Villa Park Wetland System by capturing the pollutants transported in urban stormwater such as Total Phosphorus (TP), Total Suspended Solids (TSS), heavy metals, and petroleum products, among others. The combined system includes a series of underground infiltration pipes that will reduce runoff from the surrounding neighborhood, and a cistern that stores rainwater for irrigation.

The system also uses an emerging technology to actively manage the level of water in the cistern. Software is programmed to communicate with weather forecasts and level sensors within the rainwater cistern. An automated valve will drain the cistern into the underground infiltration pipes prior to a rain storm so it can capture more stormwater. The valve will close after a storm and fills the cistern to provide water for irrigation of the softball field. The system will save up to 1.3 million gallons of drinking water by capturing and using runoff.



5.1.2 Rosewood Neighborhood Drainage Improvements

The existing storm sewer system in the Rosewood neighborhood consists of a network of pipes that lead to a manhole at Draper Avenue and Midland Hills Road. From this manhole, the stormwater runoff flows through a dual pipe system west to Walsh Lake. The existing storm sewer system was built in the 1970's and additional build-out of the neighborhood, which included the filling of wetlands, resulted in an under-sized storm sewer system for today's conditions.



The pipe configuration at Draper Avenue and Midland Hills Road creates a bottleneck on the system, which causes localized street flooding. The streets in this neighborhood are in good condition; upsizing the entire storm sewer system wouldn't have been a cost-effective manner in which to improve the drainage conditions, as it would have required significant pavement removal and excavation. In addition to costs, upsizing the pipe would increase flow rates into Walsh Lake. Since the outlet of Walsh Lake is controlled by a lift station, increased

flow to Walsh Lake could cause significant problems downstream and localized flooding

Instead, the City of Roseville installed 19 neighborhood raingardens in the Walsh Lake area to encourage infiltration of stormwater runoff and alleviate frequent local flooding problems. Additionally, a large underground storage/infiltration device was installed and Rosewood Wetland was expanded to provide additional stormwater storage and treatment capacity in this area. Creating additional storage possibilities throughout the existing storm sewer system alleviated the stress on the existing system; reduced the threat of flooding, while also improving water quality. By creating additional storage to reduce the risk of flooding, street flooding has also been reduced.

5.1.3 Aladdin Street Bioinfiltration Basin Retrofit Installation



A long urbanized area along Aladdin Street in Roseville drains to a wetland which is hydraulically connected to Lake Owasso. To provide water quality treatment for this area, the Grass Lake Watershed Management Organization, in cooperation with the Ramsey Conservation District and City of Roseville, installed a bioinfiltration basin with funding provided by the Clean Water Land & Legacy Amendment Fund.

5.1.4 Arona Pond Reconstruction

Arona pond is located within the Applewood Pointe redevelopment area. Prior to development, this pond was a landlocked basin. For years, the normal water level of the pond was governed by infiltration. As the surrounding area developed, the basin became a part of the stormwater system. An outlet was installed around 1979 that enabled the basin to pass runoff from extreme events. Approximately 112 acres contribute runoff to Arona Pond. Over the years, the sandy bottom of this pond became sealed with sediment, eliminating the infiltration capacity of the basin. This resulted in localized flooding of the surrounding properties.

As a part of the Applewood Pointe redevelopment project in 2003, the City reconstructed this pond. The reconstruction project nearly doubled the capacity of the basin. Years of sediment accumulation was excavated, restoring the infiltration capacity that had been sealed. In addition, a lift station was constructed to provide a secondary outlet for extreme events. The new pond serves as a regional stormwater treatment facility for the subwatershed.

5.1.5 South Owasso Boulevard

As a part of the 2006 South Owasso Boulevard Reconstruction project, the City constructed the improvements for the stormwater runoff being discharged into Ladyslipper Park. Between Rice Street and Western Avenue, approximately 160 acres of single family residential property drain into Lake Owasso through a drainage ditch that cuts through Ladyslipper Park in a north south direction. This ditch was constructed in 1971 as a canoe access to Lake Owasso. In the 1991 Lake Owasso Survey report, it was determined that the removal efficiency of this system is very limited. Only 30 to 50% of suspended solids and 9% of the total phosphorus were removed before being discharged into Lake Owasso.

In 2005, the City constructed a two cell pond system north of the road as well as three wetland/ biofiltration basins south of the road. These basins increased the TSS removal to 81% and Phosphorus removal to 52%. This is a significant improvement to this subwatershed area.

5.1.6 William Street Pond

In 2011, a retrofit project on the William Street Pond was completed in partnership with CRWD. The project featured sediment removal, a new baffle device and pond inlet pipe, and two iron-enhanced sand filtration benches. The iron-enhanced sand filtration benches provide for removal of dissolved phosphorus (a fraction of the total phosphorus not removed through sedimentation). The benches, which consist of sand mixed with iron filings, remove the dissolved phosphorus via surface sorption to oxidized iron.



5.1.7 Lake McCarrons Alum Treatment

In October 2004, an aluminum sulfate (alum) treatment was applied to Lake McCarrons in order to improve the poor lake water clarity caused by excessive nutrients available for algae growth. The alum bonds with phosphorus present in the water which forms a non-toxic, white floc which descends to the bottom of the lake. The floc remains chemically stable and keeps the phosphorus unavailable for algae overgrowth. The floc also creates a chemical barrier to phosphorus adhered to the sediment at the bottom of the lake.

5.1.8 Villa Park Wetland Restoration

The Villa Park Wetland System is a constructed wetland located upstream of Lake McCarrons to provide stormwater treatment. Water quality monitoring and data analyses completed for CRWD suggests that the wetlands have become a source of dissolved phosphorus to Lake McCarrons and the sediment removal efficiency of the system has significantly decreased over the past couple decades. In 2013 accumulated sediment was removed to restore the Villa Park Wetland System.

5.1.9 Gottfried's Pit Pump

The City of Roseville cooperated on a study of downstream flooding and water quality issues with CRWD, Falcon Heights, the City of St. Paul, and Ramsey County in 2003 for the northwestern watershed area to Como Lake. Roseville drains 315 acres to this system. Just east of Gottfried's Pit is a low point in local topography near the intersection of Larpenteur Avenue and Fernwood Avenue which is prone to frequent flooding. Solutions to mitigate the flooding issue on Larpenteur involved increasing the volume stored within Gottfried's Pit countered by a pump upgrade for a faster draw-down time and closing the valve located in the pipe connecting the Ramsey County storm sewer trunk to the lift station.

5.1.10 Corpus Christi and Skillman Biofiltration Basins

The City of Roseville installed two projects along Fairview Ave between Skillman Ave and County Road B to help alleviate local flooding issues. The City collaborated with the Roseville School District in 2012 and the Corpus Christi Church in 2015. Both projects involved the installation of biofiltration basins where stormwater is held for a short period and slowly drained into the city storm sewer. The stormwater is filtered by the soil before it goes into the storm sewer, which helps remove pollutants and helps protect surface water quality of local water resources.

Rice Creek Watershed District (RCWD) provided cost share funding for both of the projects.

5.2 Ongoing Issues

While the previous section provided just a few of the many project examples and accomplishments the City has made in the 20 plus years since completing its first surface water management plan, there is also more work ahead. Many of the flooding issues of the past have been addressed, but some remain. New water quality issues and concerns are emerging each year, requiring varying levels of effort by the city to address. And, the ongoing maintenance and operation of the stormwater system has grown much more complex over the years due to new regulations and a better understanding of what is necessary to keep the treatment ponds and filtration systems functioning properly.

An example of one of these complex issues is the management of contaminated stormwater sediment dredged from stormwater ponds. This section of the plan provides an overview of some of the more significant of these ongoing issues that will require substantial efforts and resource commitments. Location specific issues such as localized flooding issues and ongoing impairments are identified in Figure 19.

5.2.1 Nuisance Drainage Issues

The City has numerous locations where drainage and wet yard conditions have been reported as an issue. Many times these issues arise in neighborhoods or on private property when there was initial poor drainage design, landscaping and grading was completed which impeded drainage, and/or sump pumps are discharged into landlocked/isolated areas without positive drainage. The City's drainage and flooding issues are prioritized to effectively and efficiently remedy the issue within a given budget. If appropriate remedies to the issues are identified the City will work to coordinate and implement measures to address local drainage issues as budget allows. A list of known local drainage issues is included in Appendix F.

5.2.2 Flooding Issues

The City of Roseville's storm sewer system was designed in the 1950-60's. Now a majority of the system is undersized when comparing it to current design standards and certain areas experience frequent localized flooding. While many of the known flooding areas have been addressed by infrastructure improvements over the past 20 years, some remain and potential project locations that could help alleviate the ongoing issues are identified in the implementation section of the plan. Specific known local flooding issues are presented below in Table 14.

Table 14
Localized Flooding Issues

Subwatershed	Issue	Implementation Item(s)
35W-3	Chronic flooding at the low point of Cleveland Avenue and Long Lake Pond	1
WL-6	The lake utilizes a lift station to control the bounce and high water level. The upstream Rosewood neighborhood is prone to flooding.	2a
WL-1	HWL issue with basin which frequently floods Rose Hill Alliance Church parking lot	2b

OP-1	Skillman Ave. storm sewer capacity and Fairview trunk storm sewer surcharge and backflow flooding 1800-block of Skillman Avenue west of Fairview Avenue.	3a
OP-1	Fairview trunk storm sewer surcharges flooding low area between Gluek Ln N and Gluek Ln S	3b
WP-1	Chronic flooding occurs along the 1200-block of W Sherren St., known capacity issues within the Fernwood-Lexington trunk storm sewer system.	4
GP-1	The intersection of Larpenteur Avenue and Fernwood Avenue is prone to frequent flooding.	5
ML-9	Cohansey Boulevard adjacent to the Villa Park Wetland System has experienced flooding during extreme events.	6
3W-5	Chronic flooding along Cleveland Ave N south of County Rd C2 W	7
MTR-2	Limited downstream capacity of pumped St. Croix outlet leads to flooding	8
LLJ-4	Limited capacity of trunkline along County Road C2 W leads to flooding near Simpson Street intersection	9
ZP-1	Limited capacity of Pascal St trunkline crossing at Highway 36 leads to system surcharging and flooding at upstream Business Center and Har-Mar Mall	10
WP-1	Flooding issue at Rose of Sharon Manor (1000 Lovell Ave W)	11
LO-13	Wetland and trail flooding near ditch north of County Rd C West and east of Victoria St N	12
ML-8	Storm sewer surcharging/flooding north of Bossard Drive and south of Highway 36	13

Additionally, the City recognizes that the trunk storm sewer systems are undersized to move water efficiently during large or intense rain events, and create localized flooding issues. As reaches are identified to be undersized, the City looks at potential locations where projects could be located to reduce the impacts. Below is a list of storm sewers and potential project locations:

- Fairview Trunk Storm Sewer
 - Evergreen Park
 - Corpus Christi
 - Fairview & County Rd B (Redevelopment)
 - Perimeter Drive
 - Rosedale Center
 - Oakcrest Pond
 - Pavement Management Projects
- RDC 5 & Cleveland Avenue
 - Twin Lakes Area redevelopment

- MTR Pond
- St. Croix Ditch
- Wilson Pond
- Jones Lake (New Brighton)
- Redevelopment
- Pavement Management Projects
- RCD 4 (Open Channel Section)
 - Oasis Pond
 - Channel Improvements
- Fernwood Trunk Storm Sewer
 - St. Rose of Lima
 - Keller-Mayflower Park
 - Roseville High School
 - Bennett Lake
 - Pavement Management Projects

The City will work closely with state, county, and other municipal agencies to ensure any project can maximize its benefit. The City will look to the watershed districts for grant funding and/or technical assistance, and will apply for other grants that are available.

5.2.3 Intercommunity Flow Issues

Land development and excess runoff has led to increased discharge rates to downstream drainage systems over the previously undeveloped land use discharge rates. Subsequently some of the downstream public drainage and conveyance systems do not have adequate capacity for the increased discharge rates. When these discharges cross municipal boundaries they are referred to as intercommunity flows. A summary of modelled peak discharges for the intercommunity flow locations in Roseville is presented in the following table. These discharges are based upon current land uses and provide a benchmark for evaluating projected flows resulting from land use or conveyance system alterations.

Table 15
Intercommunity Flow Summary

Discharging City	Receiving City	Receiving Drainage System/Waterbody	Peak Flows (cfs)			
			2-year, 24-hour rainfall	10-year, 24-hour rainfall	100-year, 24-hour rainfall	100-year, 10-day snowmelt
Roseville	Arden Hills	RCD 4 Main Trunk	394	531	830	332
Roseville	New Brighton	RCD 5 Main Trunk	51	53	70	49
Roseville	Maplewood	Trout Brook Storm Sewer Interceptor	Refer to CRWD H&H Model			
Roseville	St. Paul	Trout Brook Storm Sewer Interceptor	Refer to CRWD H&H Model			
Roseville	Shoreview	Lake Owasso	Refer to RWMWD H&H Model			

There are known flooding issues along both RCD 4 and RCD 5 drainage systems which have been identified and implementation of discharge reduction strategies are a priority for the

City. A joint water quality project RCWD and Roseville have partnered on will divert flows from RCD 4 in Oasis Park to an Iron-Enhanced Sand Filter before returning stormwater back to RCD 4. Further details on this project are discussed in the following section Water Quality Impairments.

The Cities of New Brighton, Roseville, and Saint Anthony have petitioned RCWD in the matter of the RCD 2, 3 and 5 Basic Water Management Project to develop and implement a comprehensive plan addressing flood risks in the watershed as the drainage issues are multi-jurisdictional. The petition has resulted in the construction of Mirror Lake and Hansen Park projects with funds from a Targeted Watershed Demonstration Grant and RCWD. Further phases of the petition include the identification of other specific capital project elements for implementation including the subwatershed of RCD 5 in Roseville.

5.2.4 Water Quality Impairments

Of the lakes and wetlands within the City, five of them are classified as impaired (not meeting state water quality standards) by the MPCA. Figure 13 displays the impaired waters map and Table 16 summarizes each of the water body impairments. Section 303(d) of the Federal Clean Water Act (CWA) requires that states establish total maximum daily loads

(TMDLs) of pollutants to water bodies that do not meet water quality standards.

TMDLs are the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards. TMDL also refers to the process of allocating pollutant loadings among point and nonpoint sources. Each TMDL includes an implementation plan that establishes a list of actions that will be needed to manage the pollutant(s) with the goal of eliminating the impairment. Table 17 lists the impaired waters and waste load allocations the city has been assigned from TMDLs completed for waterbodies within or downstream of the City. For more information about impaired waters and TMDLs see www.pca.state.mn.us/.

Table 16
Impaired Water Bodies Summary

Name	Year Listed as Impaired	Affected Designated Use	Pollutant or Stressor	Year TMDL Approved
Little Johanna	2012	Aquatic Consumption	Perfluorooctane Sulfonate (PFOS) in Fish Tissue	Target Start Date – 2012
Little Johanna	2004	Aquatic recreation	Nutrient/Eutrophication Biological Indicators	2015
Little Johanna	2014	Aquatic Life	Chloride	2016
Bennett	2006	Aquatic recreation	Nutrient/Eutrophication Biological Indicators	2017
Bennett	2012	Aquatic Consumption	Mercury in Fish Tissue	2013
McCarron	2006	Aquatic Consumption	Mercury in Fish Tissue	2010
Owasso	1998	Aquatic Consumption	Mercury in Fish Tissue	2007
Josephine	1998	Aquatic Consumption	Mercury in Fish Tissue	2008

Table 17
Waste Load Allocation Summary

TMDL/WRAP	Waterbody	Pollutant or Stressor	WLA ¹	Percent Reduction
Como Lake	Como Lake	Total Phosphorus (lbs/year)	248.92	60%
Upper Mississippi River Bacteria TMDL	Mississippi River	<i>Escherichia Coli</i> (billion org/day)	High 396	0%
			Moist 96.8	4.8%
			Mid-Range 23.6	44%
			Dry 4.93	Insufficient Data
			Low 1.75	Insufficient Data
Twin Cities Metropolitan Area Chloride TMDL	Como Lake	Chloride (lbs/day)	2233	NA
	Little Johanna		2750	
	S. Long Lake		8066	
	Pike Lake		58998	
	Unnamed Stream		2839	
South Metro Mississippi River TSS TMDL	Mississippi River	Total Suspended Solids (metric tons/year)	33950	20%
Rice Creek Watershed District Southwest Urban Lakes TMDL	Little Johanna	Total Phosphorus (kg/yr)	201.6	47%
	Long South		167.4	46%
	Pike		371.1	46%
Ramsey-Washington Metro Watershed District TMDL	Bennett Lake	Total Phosphorus (lbs/growing season)	20.1	66%

Notes: ¹Categorical WLA

The plan also discussed a few of the emerging water quality issues that have the potential to significantly alter the quality and characteristics of water resources. Much like some localized flooding issues that won't be identified until the next big rainfall, new water quality issues may not be known for years to come. Researchers throughout the country are identifying new issues on a regular basis and regulators and policy makers are developing requirements and guidance to manage these new pollutants. The City's plan is to focus resources on the pollutants that they can best address, such as total suspended solids and total phosphorus and at the same time recognize that new issues may arise that requires adjustment to the current approach.

One such example of how the City plans to make progress in addressing water quality impairments is with an upcoming project for a pump-operated Iron-Enhanced Sand Filter (IESF) in Oasis Park. The City has partnered with RCWD which was awarded a Clean Water Fund Grant for the project for construction of this improvement in 2018. The project is estimated to remove approximately 34 pounds of phosphorus a year to Little Lake Johanna. Other programmatic implementation items such as public outreach and education can help reduce loads such as fecal coliforms (Upper Mississippi River TMDL) by educating pet owners on the City Code which requires them to clean up and properly dispose of pet waste.

The City has committed funding toward the project and will also own and operate the mechanical system for the projected after construction is complete. The City is committed to continuing to work in partnership with watershed districts on projects benefiting water quality and prioritizing projects that make progress toward TMDL load reduction goals (shown in Table 17) as required by the City's MS4 permit.

5.2.5 Operation and Maintenance

With more than 140 public stormwater treatment systems (ponds, infiltration basins, etc.), more than 120 miles of storm pipe and an extensive road system on which to complete street sweeping and deicing, the overall stormwater system operation and maintenance needs of the City is significant. In fact, the resources needed to maintain the system will likely grow due to more treatment devices being installed each year and the need to conduct maintenance on those that have been in service for 20 years or more.

One of the most challenging ongoing maintenance needs will be the pond cleanout work that relates to requirements of the NPDES MS4 Permit Program. The MPCA published [Managing Stormwater Sediment Best Management Practice Guidance for Municipalities](#) (June 2012) and describes when the dredged sediment can be used as unregulated clean fill and when it is considered regulated solid waste. The cost difference can be significant depending on the levels of contaminants of concern found in tested sediment samples.

5.2.6 Education, Outreach and Collaboration

Managing stormwater has expanded to beyond just City resources and responsibility. A coordinated approach with residents, local interest groups, developers, City and watershed staff, and elected officials is needed in order to achieve local water quality improvements and meet the goals of this plan. The City is required to complete public education efforts as part of its NPDES MS4 Permit Program. The City has also conducted and supported a number of educational programs such as rain water garden workshops that help residents contribute to community efforts. These efforts will continue to be critical towards improving management of grass clippings, fertilizers, chemicals and yard waste. The efforts will help to reduce the chances of a residential backyard grading project that might change the flow of stormwater, and they will help inform the public of fish consumption advisories on area lakes and invasive species issues.

6.0 Implementation Program and Funding

The Implementation Program intended to provide guidance in carrying out the Plan goals and objectives. The Implementation Program and funding section summarizes capital improvement projects, studies and ongoing maintenance, inspection, monitoring and other management activities. This Plan is intended to serve the City for at least the next ten years and many of the program activities will continue at least out to the year 2030.

Table 18 summarizes the activities and efforts of the overall implementation program. The Implementation Plan should be reviewed on an annual basis. At that time, each proposed improvement is to be reconsidered, City budgets adjusted, and additional improvement projects or management activities added to or removed from the program. Estimated planning-level costs of recommended actions are provided with a cautionary note that they are not intended to set unrealistic expectations of the actual costs of projects and/or activities. The costs provided are intended to serve as an order-of-magnitude look at what the activity may require.

Paying for water management projects and administrative activities has become more complex in recent years. In addition, public improvement and private development projects are seeing a higher percentage of their planning and construction budget being needed for water resources and environmental protection efforts. In the past, special assessments against benefited properties financed most of the necessary improvements. However, the financial options have broadened considerably. The question is which method or methods best suit the needs of the City. The major categories of funding sources are: Ad Valorem Taxes; Special Assessments; Stormwater Utility; and Grants, as summarized below.

- *Ad Valorem Tax.* General taxation is the most common revenue source used to finance government services, including minor maintenance measures for drainage and water quality facilities. Using property tax has the effect of spreading the cost over the entire tax base of a community. A special tax district can also be used to raise revenue. The special tax district is similar to the administrative structure under general taxation except that all or part of the community may be placed in the tax district. The principle is to better correlate improvement costs to benefited or contributing properties.
- *Special Assessments.* Municipalities are familiar with the use of special assessments to finance special services from maintenance to construction of capital improvements. The assessments are levied against properties benefiting from the special services. The philosophy of this method is that the benefited properties pay in relation to benefits received. The benefit is the increase in the market value of the properties.
- *Trunk Storm Sewer/Development Fees.* Fees charged to new development that generates runoff can be charged to finance infrastructure needed to serve the development. This is a useful tool in communities that are rapidly developing.
- *Storm Utility Fee.* A utility is a service charge or fee based on usage, similar to the fees charged for sanitary sewer or potable water supply. The fee is typically charged against improved parcels based on the concept of contributors (or users) pay. The rate structure is based on the land use type, density, and parcel size to reflect the typical runoff contributed by a given parcel. In some cases parcels may be eligible for a credit to reduce their fee.
- *Grants.* State grants are available for surface water management and non-point source pollution. However, it is generally not a good financial practice to rely on grants for a service program. This source of revenue is not dependable and requires constant speculation as to its availability. Grants are useful but should only be used to supplement a planned local revenue source. Some of the agencies and programs that may have available grant funds include:
 - Environmental Protection Agency
 - Watershed Districts
 - U. S. Fish and Wildlife Service
 - Minnesota Department of Natural Resources
 - Metropolitan Council
 - Ramsey Conservation District
 - Minnesota Board of Water and Soil Resources
 - Minnesota Pollution Control Agency

The City currently has a storm drainage utility fee in place which funds stormwater management related costs such as educational programs, construction of treatment systems

and maintenance of the overall stormwater treatment and conveyance systems (storm sewer maintenance and street sweeping). The charges and fees will be reviewed and adjusted annually to ensure adequate funding for the activities set forth in this plan and those required by law. The funding source for the implementation program in Table 18 is the stormwater utility.

Table 18
Water Resources Capital Improvement Program

Line	Implementation Project	2018	2019	2020	2021	2022
1	Public Outreach Consultants/Educators	\$5,000	\$5,000	\$5,000	\$6,000	\$6,000
2	Street Sweeping	\$10,000	\$10,000	\$15,000	\$15,000	\$15,000
3	BMP Maintenance	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
4	Storm Sewer Televising	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
5	Pavement Mgmt Projects – Water Quality/Sewer upgrades	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
6	Drainage Improvements – Various Storm sewer upgrades	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
7	Fairview Trunk Stormsewer System Analysis	\$50,000				
8	Fairview Trunk Stormsewer Underground Project 1		\$410,000			
9	Fernwood Trunk Storm Sewer: St Rose of Lima Underground			\$150,000		
10	St Croix Ditch Maintenance			\$65,000	\$75,000	\$85,000
11	Fernwood Trunk Storm Sewer: Keller-Mayflower Underground					
12	Fairview Trunk Storm Sewer: Oakcrest Pond					
13	Fairview Trunk Stormsewer Underground Project 2					
14	Fairview Trunk Stormsewer Underground Project 3					
16	Oasis Pond Iron Enhanced Sand Filter	\$10,000				
17	Oakcrest Pond					\$250,000
18	I-35W CR C Sanitary Separation		\$300,000			
19	Millwood Storm Station Upgrades					
20	Arona Storm Station Upgrades					
21	Owasso Hills Storm Station Upgrades					
22	SCADA Replacement/Upgrades		\$75,000			
23	CSWMP Revision/updates					
24	Leaf site water quality improvements				\$75,000	
25	Walsh Lift Station	\$265,000				
26	Pond Maintenance/Improvements	\$75,000	\$300,000	\$350,000	\$350,000	\$400,000
27	Valley Park Berm	\$200,000				
28	Totals	\$865,000	\$1,350,000	\$835,000	\$771,000	\$1,006,000

Table 18 (Continued)
Water Resources Capital Improvement Program

Line	Implementation Project	2023	2024	2025	2026	2027
1	Public Outreach Consultants/Educators	\$6,000	\$6,000	\$7,000	\$7,000	\$7,000
2	Street Sweeping	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
3	BMP Maintenance	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
4	Storm Sewer Televising	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
5	Pavement Mgmt Projects – Water Quality/Sewer upgrades	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
6	Drainage Improvements – Various Storm sewer upgrades	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
7	Fairview Trunk Stormsewer System Analysis					
8	Fairview Trunk Stormsewer Underground Project 1					
9	Fernwood Trunk Storm Sewer: St Rose of Lima Underground					
10	St Croix Ditch Maintenance					
11	Fernwood Trunk Storm Sewer: Keller-Mayflower Underground	\$650,000				
12	Fairview Trunk Storm Sewer: Oakcrest Pond		\$250,000			
13	Fairview Trunk Stormsewer Underground Project 2			\$500,000		
14	Fairview Trunk Stormsewer Underground Project 3					\$500,000
16	Oasis Pond Iron Enhanced Sand Filter					
17	Oakcrest Pond					
18	I-35W CR C Sanitary Separation					
19	Millwood Storm Station Upgrades			\$200,000		
20	Arona Storm Station Upgrades		\$20,000			
21	Owasso Hills Storm Station Upgrades		\$200,000			
22	SCADA Replacement/Upgrades			\$20,000		
23	CSWMP Revision/updates					\$90,000
24	Leaf site water quality improvements					
25	Walsh Lift Station					
26	Pond Maintenance/Improvements	\$400,000	\$400,000	\$400,000	\$450,000	\$450,000
27	Valley Park Berm					
28	Totals	\$1,326,000	\$1,146,000	\$1,397,000	\$727,000	\$1,317,000

Beyond the activities programed in Table 18, there are numerous projects and activities that the City wishes to pursue but are not programmed into a specific year or allocated funding. For many of the projects in this list, as shown in Table 19, an initial study will be required to determine the most feasible solution(s) for an issue and therefore the recommended implementation activity is unknown. Some of the activities in the Table 19 require the coordination and collaboration with other entities such as watershed districts, neighboring communities and developers and have a yet to be determined schedule for implementation. Other activities are lower priority and/or require additional resources in personnel or funding to implement and therefore have been excluded from the implementation program but should be re-evaluated on an annual basis for inclusion on the implementation program shall resources become available.

Table 19
Implementation Program Activities

Item	Applicable Goal	Activity/Project	Location	Estimated Cost
1	Flood Protection and Runoff Management	Perform hydrologic and hydraulic analysis of Iona Pond drainage system (issue area #1) and identify potential improvements to alleviate flooding	35W-3	\$35,000.00
2	Flood Protection and Runoff Management	Implement recommended study improvements	35W-3	\$2,500,000.00
3	Flood Protection and Runoff Management	Implement remaining recommended study improvements in Walsh Lake subwatershed area to address issue area 2a and 2b.	WL-1 & 6	\$150,000.00
5	Flood Protection and Runoff Management	Implement additional recommended study improvements from Fairview Trunk Storm Sewer Analysis	OP-1	\$5,000,000.00
6	Flood Protection and Runoff Management	Perform hydrologic and hydraulic analysis of the Fernwood-Lexington drainage system, north of Hwy 36.	WP-1	\$35,000.00
7	Flood Protection and Runoff Management	Implement recommended study improvements	WP-1	\$750,000.00
8	Flood Protection and Runoff Management	Perform hydrologic and hydraulic analysis of the Godfrey Pit subwatershed and identify potential improvements to alleviate flooding near the intersection of Larpenteur Avenue and Fernwood Avenue (issue area #5).	GP-1	\$35,000.00
9	Flood Protection and Runoff Management	Implement recommended study improvements	GP-1	\$500,000.00
10	Flood Protection and Runoff Management	Perform hydrologic and hydraulic analysis of the Cohansey Boulevard system and identify potential improvements to alleviate flooding along Cohansey Boulevard near Villa Park (issue area #6).	ML-9	\$15,000.00
11	Flood Protection and Runoff Management	Implement recommended study improvements	ML-9	\$1,000,000.00
12	Flood Protection and Runoff Management	Perform hydrologic and hydraulic analysis of the Cleveland C2 Pond drainage system (issue area #7) and identify potential improvements to alleviate flooding along Cleveland Ave near County Road C2.	35W-5	\$40,000.00
13	Flood Protection and Runoff Management	Implement recommended study improvements	35W-5	\$500,000.00
14	Flood Protection and Runoff Management	Perform hydrologic and hydraulic analysis of the pumped St. Croix outlet system (issue area #8) to identify potential improvements to alleviate flooding.	MTR-2	\$25,000.00
15	Flood Protection and Runoff Management	Implement recommended study improvements	MTR-2	\$750,000.00
16	Flood Protection and Runoff Management	Perform hydrologic and hydraulic analysis of the County Rd C2 W drainage system east of Snelling Ave (issue area #9) and identify potential improvements to alleviate flooding at the on the 1400-block of County Rd C2 W and the intersection of County Rd C2 W and Simpson Street.	LLJ-4	\$15,000.00
17	Flood Protection and Runoff Management	Implement recommended study improvements	LLJ-4	\$500,000.00

Table 19 (Continued)
Implementation Program Activities

Item	Applicable Goal	Activity/Project	Location	Estimated Cost
18	Flood Protection and Runoff Management	Perform hydrologic and hydraulic analysis of the Pascal St trunk line and crossing at Highway 36 (issue area #10) to identify potential improvements to alleviate flooding at the upstream Business Center and Har-Mar Mall.	ZP-1	\$25,000.00
19	Flood Protection and Runoff Management	Implement recommended study improvements	ZP-1	\$500,000.00
20	Flood Protection and Runoff Management	Perform hydrologic and hydraulic analysis of the Lowell Ave W drainage system to identify potential improvements to alleviate flooding at Rose of Sharon Manor (1000 Lovell Ave W) (issue area #11).	WP-1	\$15,000.00
21	Flood Protection and Runoff Management	Implement recommended study improvements	WP-1	\$500,000.00
22	Flood Protection and Runoff Management	Perform hydrologic and hydraulic analysis of the near ditch north of County Rd C West and east of Victoria St N (issue area #12) discharging to Lake Owasso to identify potential improvements to alleviate wetland and trail flooding.	LO-13	\$20,000.00
23	Flood Protection and Runoff Management	Implement recommended study improvements	LO-13	\$500,000.00
24	Flood Protection and Runoff Management	Perform hydrologic and hydraulic analysis of of Bossard Drive drainage system south of Highway 36 (issue area #13) to identify potential improvements to alleviate flooding.	ML-8	\$15,000.00
25	Flood Protection and Runoff Management	Implement recommended study improvements	ML-8	\$500,000.00
26	Surface Water Protection	Complete a feasibility study of potential measures to stabilize ditch erosion and mitigate direct discharge to Little Josephine from Millwood Ave storm sewer outlet.	LJ-3	\$15,000.00
27	Surface Water Protection	Implement feasibility study improvements	LJ-3	\$500,000.00
28	Surface Water Protection	Complete a feasibility study of potential measures to stabilize ditch erosion and mitigate direct discharge to Lake Owasso from Victoria St N storm sewer outlet south of Orchard Lane.	LO-13	\$15,000.00
29	Surface Water Protection	Implement feasibility study improvements	LO-13	\$500,000.00
30	Coordination and Collaboration	Collaborate with the City of Maplewood, Ramsey County, and CRWD to resolve storm sewer capacity issues at Center Street which discharges into the Trout Brook Interceptor storm system.	TB-2	\$10,000.00
31	Coordination and Collaboration	Coordinate with RCWD in the implementation of the Southwest Urban Lakes TMDL in achieving the categorical MS4 stormwater waste load allocation reduction goals for Little Lake Johanna (179.0 kg TP/year), Long Lake South (140.1 kg TP/year) and Pike Lake (314.4 kg TP/year).	City area throughout RCWD	\$15,000.00
32	Surface Water Protection	Complete a feasibility study for implementing local BMPs #4-12, 15, and 16 as identified in the Jones Lake Field Reconnaissance Supplement in RCWD Southwest Urban Lakes Action Plan.	MTR Drainage Areas	\$15,000.00

Table 19 (Continued)
Implementation Program Activities

Item	Applicable Goal	Activity/Project	Location	Estimated Cost
33	Surface Water Protection	Implement feasibility study recommended improvements	MTR Drainage Areas	\$500,000.00
34	Surface Water Protection	Complete a feasibility study for implementing local BMPs #1 and 2 as identified in the Josephine Lake Field and Reconnaissance Supplement in RCWD Southwest Urban Lakes Action Plan.	LJ Drainage Areas	\$15,000.00
35	Surface Water Protection	Implement feasibility study recommended improvements	LJ Drainage Areas	\$500,000.00
36	Surface Water Protection	Complete a feasibility study for implementing local BMPs #1-4 as identified in the Langton Lake Field and Reconnaissance Supplement in RCWD Southwest Urban Lakes Action Plan.	LL Drainage Areas	\$15,000.00
37	Surface Water Protection	Implement feasibility study recommended improvements	LL Drainage Areas	\$500,000.00
38	Coordination and Collaboration	Continue to coordinate closely with developers of the Twin Lakes Area to ensure that City Standards and RCWD requirements are achieved or exceeded as this area re-develops	LL Drainage Areas	\$5,000.00
39	Surface Water Protection	Complete a feasibility study for implementing local BMPs #4-9 as identified in the Little Johanna Lake Field and Reconnaissance Supplement in RCWD Southwest Urban Lakes Action Plan	LLJ Drainage Areas	\$15,000.00
40	Surface Water Protection	Implement feasibility study recommended improvements	LLJ Drainage Areas	\$500,000.00
41	Coordination and Collaboration	Cooperate with RCWD efforts to clean RCD 4, repair areas of channel erosion, and manage runoff to RCD 4	LLJ-7	\$50,000.00
42	Surface Water Protection	Complete a feasibility study for implementing local BMPs #6-9 as identified in the Little Josephine Lake Field and Reconnaissance Supplement in RCWD Southwest Urban Lakes Action Plan	LJ-3	\$15,000.00
43	Surface Water Protection	Implement feasibility study recommended improvements	LJ-3	\$500,000.00
44	Surface Water Protection	Complete a feasibility study to further investigate the possibility of daylighting trunk storm sewer along Fernwood St to a potential treatment area within Cottontail Park and/or the open space east of the park	LJ-3	\$15,000.00
45	Surface Water Protection	Implement feasibility study recommended improvements	LJ-3	\$400,000.00
46	Surface Water Protection	Complete a feasibility study for implementing local BMPs #5 and 6 as identified in the Walsh Lake Field and Reconnaissance Supplement in RCWD Southwest Urban Lakes Action Plan	WL Drainage Areas	\$15,000.00

Table 19 (Continued)
Implementation Program Activities

Item	Applicable Goal	Activity/Project	Location	Estimated Cost
47	Surface Water Protection	Implement feasibility study recommended improvements	WL Drainage Areas	\$250,000.00
48	Coordination and Collaboration	Coordinate with developers to investigate BMP retrofit opportunities during future re-development processes within the watershed	WL Drainage Areas	\$5,000.00
49	Surface Water Protection	Complete a feasibility study for implementing local BMPs #1-4 as identified in the Zimmerman Lake Field and Reconnaissance Supplement in RCWD Southwest Urban Lakes Action Plan.	ZP-1	\$15,000.00
50	Surface Water Protection	Implement feasibility study recommended improvements	ZP-1	\$600,000.00
51	Surface Water Protection	Coordinate with RWMWD in the implementation of the Ramsey-Washington Metro WD TMDL Study toward achieving the City of Roseville MS4 stormwater waste load allocation reduction goals for Bennett Lake of 35.4 lbs TP/growing season	BL Drainage Areas	\$25,000.00
52	Coordination and Collaboration	Coordinate with RWMWD in implementing lakeshore restoration to enhance the Bennett Lake lakeshore native habitat and stabilization	BL-6	\$10,000.00
53	Surface Water Protection	Complete a feasibility study for enhanced treatment of Willow Pond outflows, regional stormwater treatment within Central Park and other options identified in previous studies, including the Bennet Lake TMDL.	WP-1 & BL Drainage Areas	\$20,000.00
54	Surface Water Protection	Implement feasibility study recommended improvements	WP-1 & BL Drainage Areas	\$250,000.00
55	Coordination and Collaboration	Coordinate with RWMWD in the assessment and implementation of natural area restoration along the Owasso Lake area.	LO-13	\$15,000.00
56	Coordination and Collaboration	Coordinate with RWMWD in the feasibility study of retrofit opportunities in the Lake Owasso subwatershed including reducing the phosphorus load from the tributary wetland system and implementing a sediment pond at the City of Roseville's compost facility.	LO Drainage Areas	\$15,000.00
57	Surface Water Protection	Coordinate with RWMWD in the implementation and construction of projects and potential retrofit BMPs deemed feasible in the Lake Owasso subwatershed feasibility study.	LO Drainage Areas	\$500,000.00
58	Public Education and Outreach	Collaborate with Parks and Recreation to create a stormwater exhibit at the Harriet Alexander Nature Center to educate visitors on the impacts non-point sources have on water quality and wildlife.	LO-8	\$5,000.00
59	Pollution Prevention and Maintenance	Monitor sedimentation in city storm water ponds. Implement a pond cleanout and dredging program to restore design capacity.	Citywide	\$3,000,000.00
60	Public Education and Outreach	Develop education for property owners on how to manage snow removal to minimized water quality and quantity concerns.	NA	\$5,000.00

Table 19 (Continued)
Implementation Program Activities

Item	Applicable Goal	Activity/Project	Location	Estimated Cost
61	Public Education and Outreach	Investigate the potential for developing an electronic public photo database of unique features/BMPs and before & after examples of City water resource projects.	NA	\$2,000.00
62	Public Education and Outreach	Investigate opportunities to collaborate on developing unique public education opportunities.	NA	\$5,000.00
63	Sustainability	Incorporate water resources elements of the Complete Streets Policy into city projects.	NA	\$1,000,000.00
64	Coordination and Collaboration	Collaborate with the Parks and Recreation Commission to incorporate stormwater BMPs, above and beyond required levels, concurrent with the parks renewal program while maintaining active park space.	Citywide	\$1,000,000.00
65	Sustainability	Monitor the Twin Lakes water reuse system and develop a water reuse policy.	NA	\$5,000.00
66	Flood Protection and Runoff Management	Conduct analysis to identify vulnerable areas where 100-yr flood protection is not possible and prepare emergency response plan.	Citywide	\$500,000.00
67	Public Education and Outreach	Expand the City's website to include this plan, identify citizen involvement opportunities, and provide additional storm water management resources.	NA	\$5,000.00
68	Public Education and Outreach	Explore an annual City Council recognition program for environmental projects completed in the City.	NA	\$5,000.00
69	Groundwater Protection	Explore the potential for a policy regarding monitoring requirements of underground storage and infiltration BMPs treating large commercial/industrial areas.	NA	\$5,000.00
70	Surface Water Protection	Effectively update Shoreland, Wetland, and Stormwater Management ordinance to meet the goals of the CSWMP	NA	\$10,000.00
71	Flood Protection and Runoff Management	Establish ordinary high water or boundaries for all waterbodies within the City for purposes of effectively implementing the Shoreland, Wetland, and Stormwater Management ordinance.	NA	\$25,000.00
72	Pollution Prevention and Maintenance	Develop a private BMP agreement and incorporate into City asset management system for tracking.	NA	\$3,000.00
			Total	\$25,320,000.00

7.0 Plan Adoption and Amendments

7.1 Formal Plan Review and Adoption

Minnesota Statute 103B.235, Subd. 3 (italics below) describe the required formal review process for local water management plans.

*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.*

The following organizations will receive Agency Review Drafts of this plan for the formal review and comment:

- Rice Creek Watershed District (60-day review period)
- Capitol Region Watershed District (60-day review period)
- Ramsey-Washington Metro Watershed District (60-day review period)
- Ramsey County (45-day review period)
- Metropolitan Council (45-day review period)

After the City receives formal comments on the Agency Review Draft, the City's consultant will make necessary revisions to the plan to receive agency approval. Upon approval of the plan the City Council must formally consider and adopt the Final Plan through a Council Action.

7.2 Amendment Process

The Comprehensive Surface Water Management Plan is intended to extend approximately through the year 2027. In conjunction with this Plan, the NPDES SWPPP activities will be reviewed and evaluated annually in a public meeting and the permit program itself will be updated as required by the MPCA NPDES permit program. For this plan to remain dynamic, an avenue must be available to implement new information, ideas, methods, standards, management practices, and any other changes which may affect the intent and/or results of this Plan. Amendment proposals can be requested at any time by any person or persons either residing or having business within the City.

7.2.1 Request for Amendments

Any individual can complete a written request for a Plan amendment and submit the request to City staff. The request shall outline the specific items or sections of the Plan requested to be amended, describe the basis and need for the amendment and explain the desired result of the amendment towards improving the management of surface water within the City. Following the initial request, staff may request that additional materials be submitted in order for staff to make a fully-informed decision on the request.

The City may also initiate an amendment to respond to amendment to a local watershed organization plan or following the completion and approval of a TMDL implementation plan.

7.2.2 Staff Review

Following a request for Plan amendments, staff will make a decision as to the completeness and validity of the request. If additional information is needed by staff to determine the validity of the request, staff will generally respond to the requestor within 30-60 days of receiving the request.

Following receipt of sufficient information such that validity of the request can be evaluated, there are three options which are described below:

- a. Reject the amendment. Staff will reject the amendment if the request reduces, or has the potential to reduce, the Plan's ability to achieve the goals and policies of the Plan, or will result in the Plan no longer being consistent with one or more of the watershed district's plans.
- b. Accept the amendment as a minor issue, with minor issues collectively added to the plan at a later date. These changes will generally be clarifications of plan provisions or to incorporate new information available after the adoption of the 2018 Plan. Minor changes will generally be evaluated on the potential of the request to help staff better implement and achieve the goals and policies the Plan. Minor issues will not result in formal amendments but will be tracked and incorporated formally into the Plan at the time any major changes are approved.
- c. Accept the amendment as a major issue, with major issues requiring an immediate amendment. In acting on an amendment request, staff should recommend to the City council whether or not a public hearing is warranted. In general, any requests for changes to the goals and policies or the development standards established in the Plan will be considered major amendments.

Staff will make every attempt to respond to the request within 30-60 days of receiving sufficient information from the requestor. The timeframe will allow staff to evaluate the request internally and gather input from the WD/WMOs and other technical resources, as

needed. The response will describe the staff recommendation and which of the three categories the request falls into. The response will also outline the schedule for actions, if actions are needed to complete the requested amendment.

7.2.3 Watershed District Approval

All proposed major amendments must be reviewed and approved by the appropriate Watershed Districts prior to final adoption of the amendments. Major amendments would include changes to the goals and policies of the Plan. Staff will review the proposed amendments with the WDs to determine if the change is a major amendment and if determined to be major amendment, then will assess the ability of the requested amendment to maintain consistency with WD plans.

7.2.4 Council Consideration

Major amendments and the need for a public hearing will be determined by staff and if identified as a major amendment, the request will be considered at a regular or special Council meeting. Staff recommendations will be considered before decisions on appropriate action(s) are made. The requestor will be given an opportunity to present the basis for, and intended outcomes of, the request at the public hearing and will be notified of the dates of all official actions relating to the request.

7.2.5 Public Hearing and Council Action

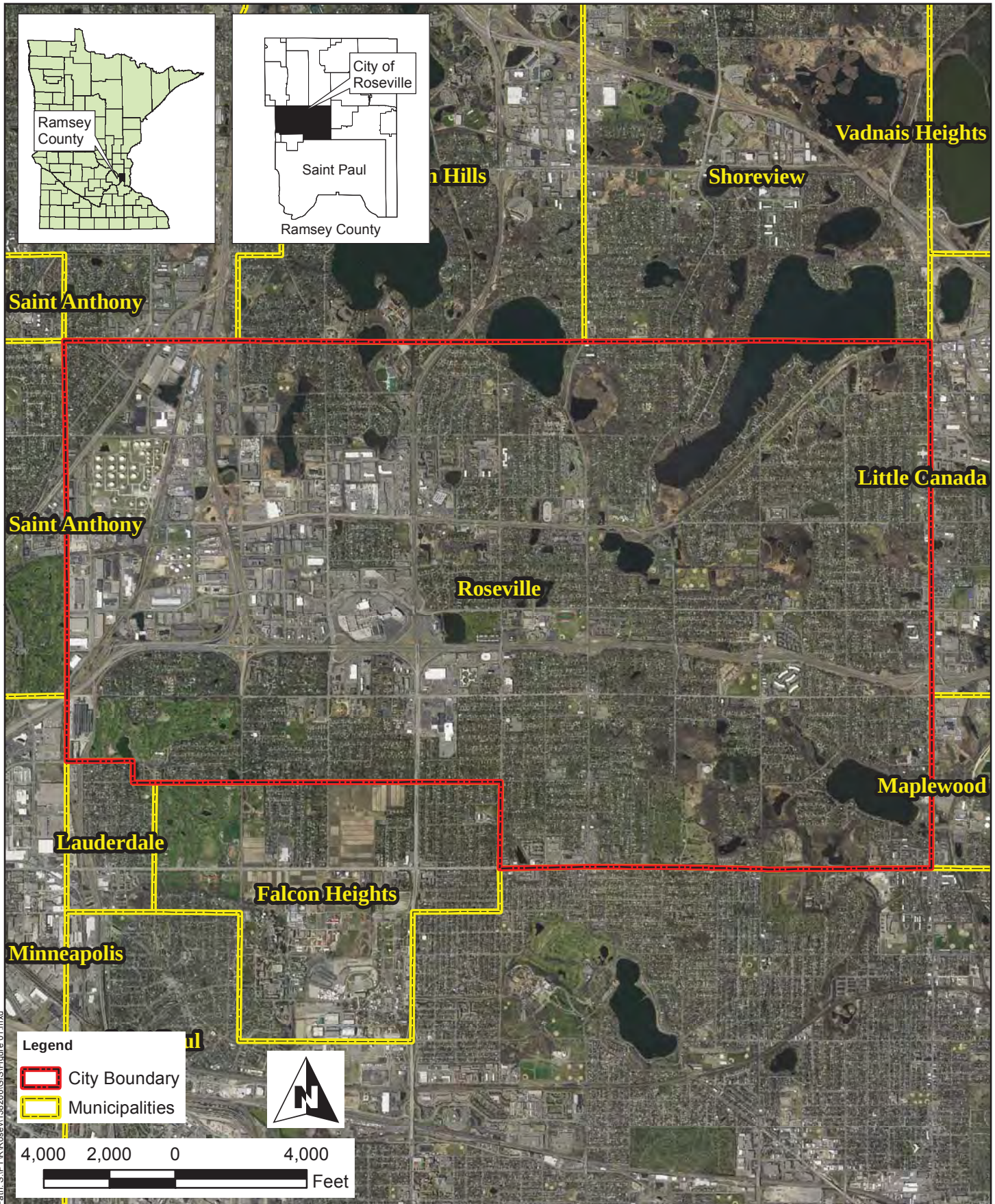
The initiation of a public hearing will allow for public input or input based on public interest in the requested amendment. Council, with staff recommendations, will determine when the public hearing should occur in the process. Consistent with other formal Council actions and based on the public hearing, Council would adopt the amendment(s), deny the amendment(s) or take other action.

7.2.6 Council Adoption

Final action on any major amendments, following approval by the Watershed Districts, is Council adoption. Prior to the adoption, an additional public hearing may be held to review the Plan changes and notify the appropriate stakeholders.

List of Figures

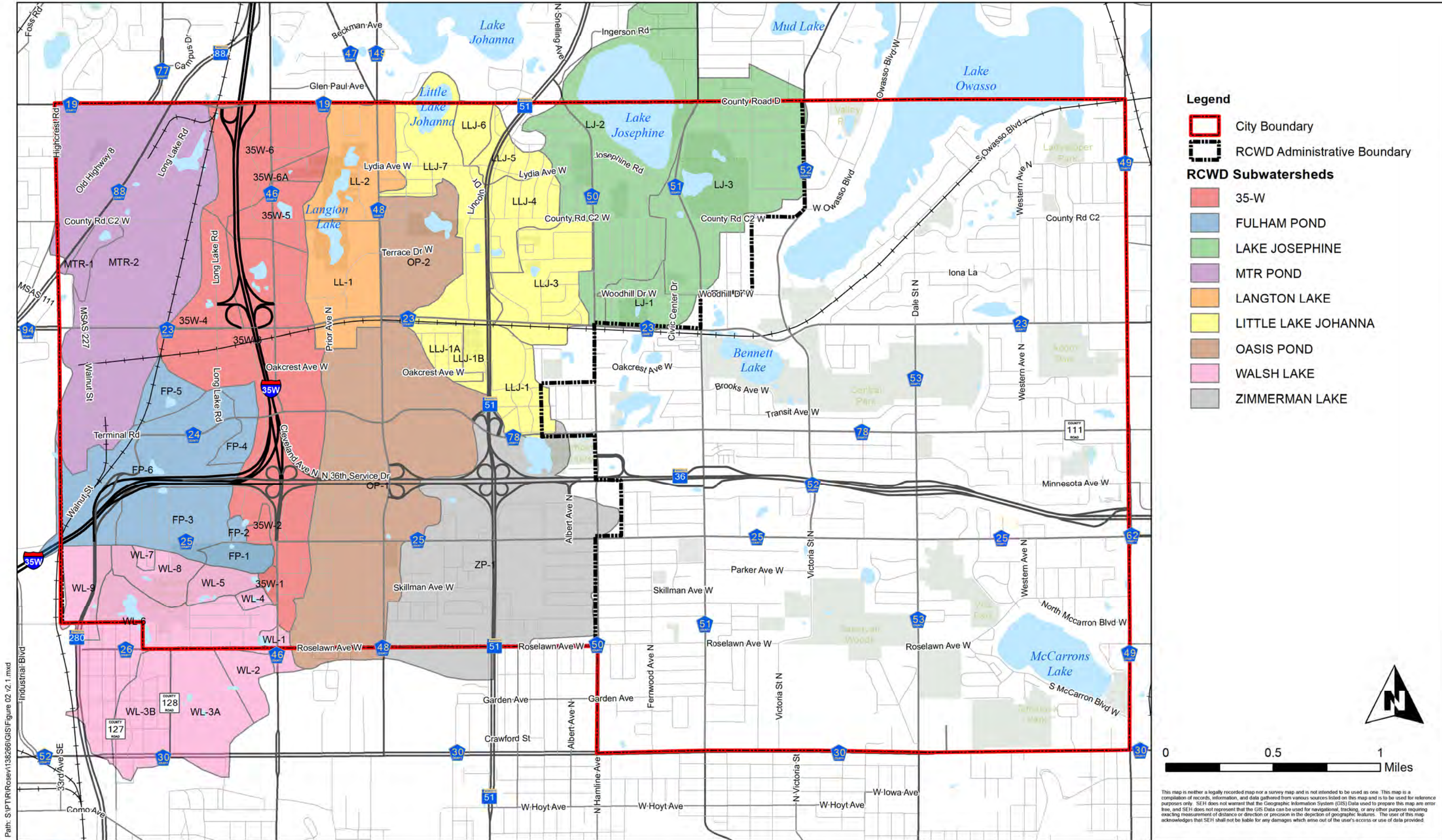
- Figure 1 – Location Map
- Figure 2 – Sub-watershed Map
- Figure 3 – Storm Sewer Map
- Figure 4 – Hydrologic Soil Group Map
- Figure 5 – Surficial Geology Map
- Figure 6 – Bedrock Geology Map
- Figure 7 – Current Landuse Map
- Figure 8 – 2030 Planned Landuse Map
- Figure 9 – Land Cover Map
- Figure 10 – Parks and Open Space Map
- Figure 11 – Public Waters Inventory Map
- Figure 12 – National Wetlands Inventory Map
- Figure 13 – Impaired Waters Map
- Figure 14 – Special Flood Hazard Areas Map
- Figure 15 – Ground Water Protection Map
- Figure 16 – Pollution Sources Map
- Figure 17 – Watershed Districts Map
- Figure 18 – Past Project Examples Map
- Figure 19 – Ongoing Issues/Implementation Plan Map
- Figure 20 – Street Sweeping Sensitive Areas Map



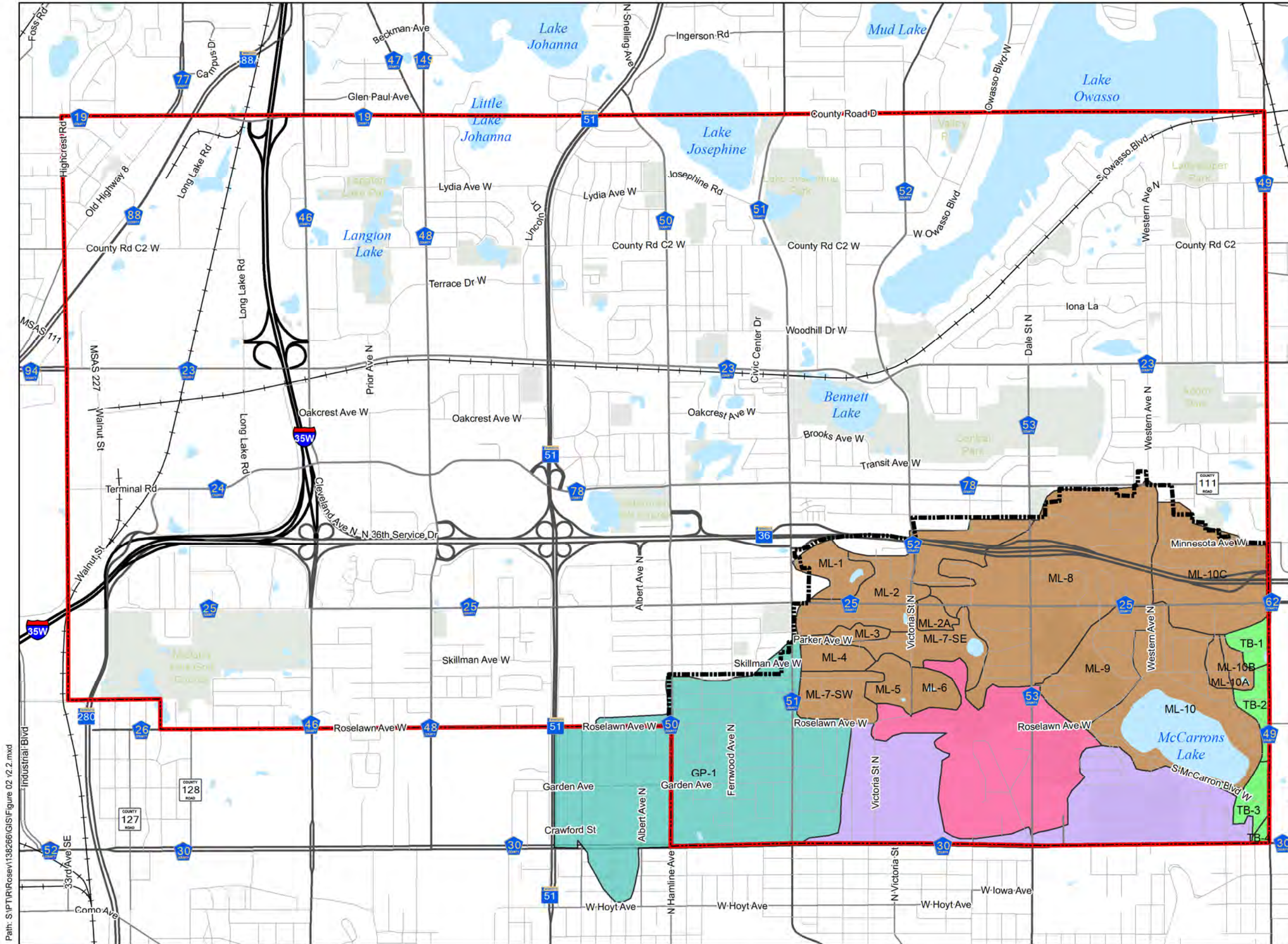
	3535 VADNAIS CENTER DR. ST. PAUL, MN 55110 PHONE: (651) 490-2000 FAX: (888) 908-8166 TF: (800) 325-2055 www.sehinc.com	Project: ROSEV 138266 Print Date: 2/28/2017 Map by: SrH Projection: UTM, Zone 15, NAD 83, m Source: USGS 7.5 Min. Topo, MnDOT, and SEH Inc.	Site Location Map Comprehensive Surface Water Management Plan Roseville, Minnesota	Figure 1
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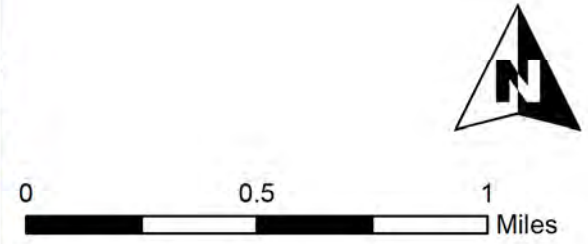
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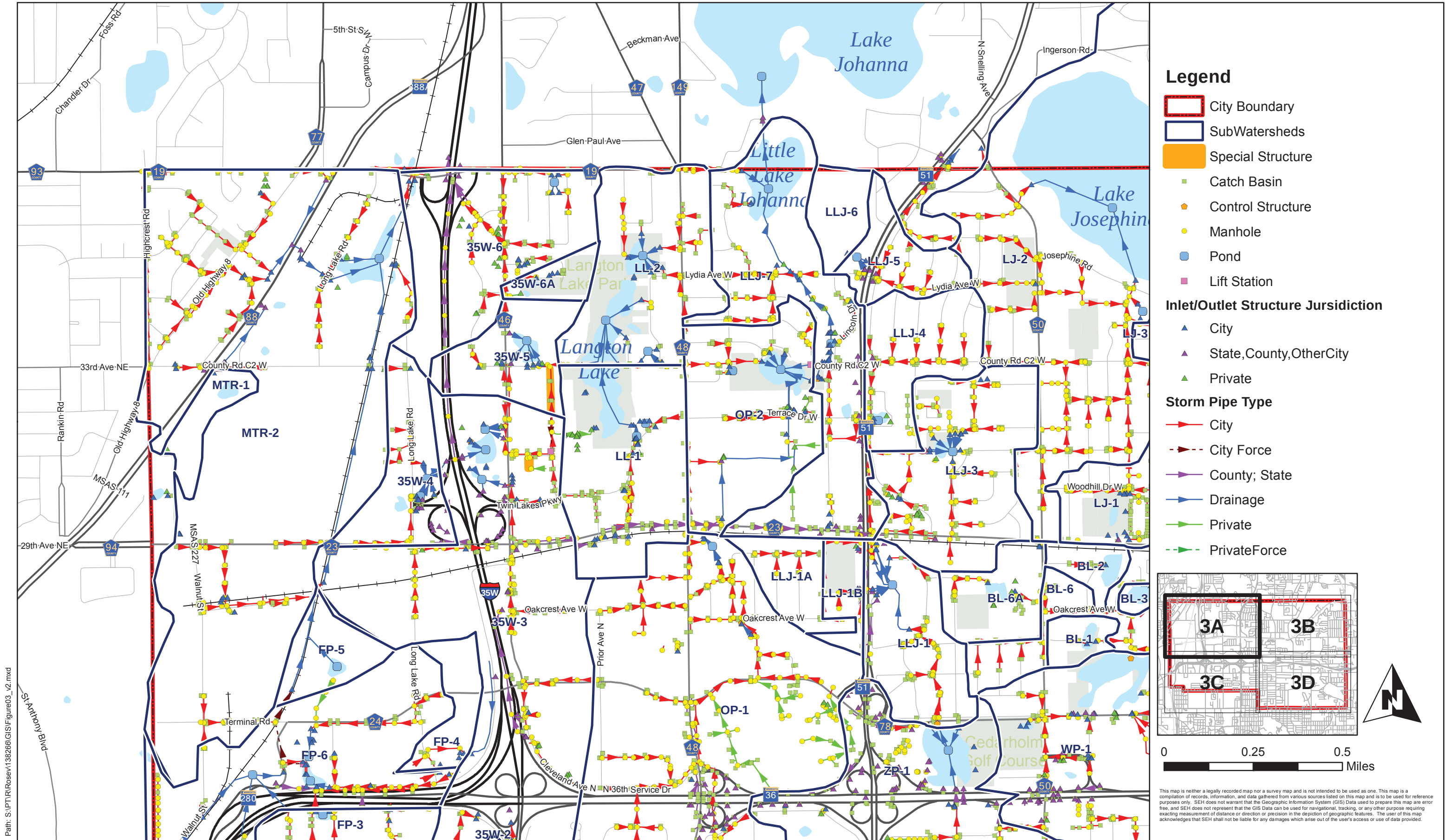


- Legend**
- City Boundary
 - CRWD Administrative Boundary
- CRWD Subwatersheds**
- CO. DITCH NO. 10
 - GODFREY PIT
 - LANDLOCKED-4
 - MCCARRON LAKE
 - TROUT BROOK



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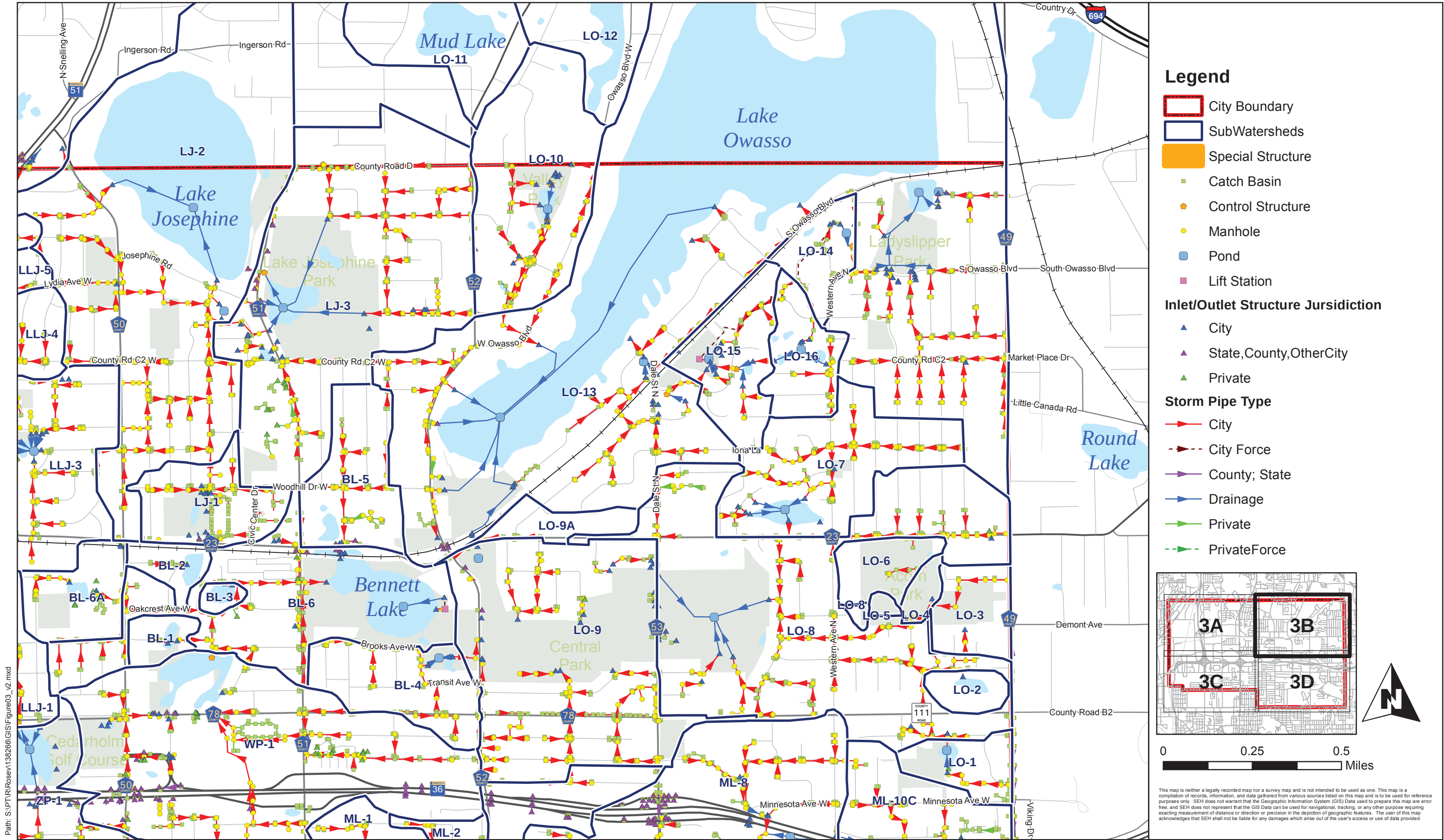
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COMPREHENSIVE SURFACE WATER MANAGEMENT PLAN

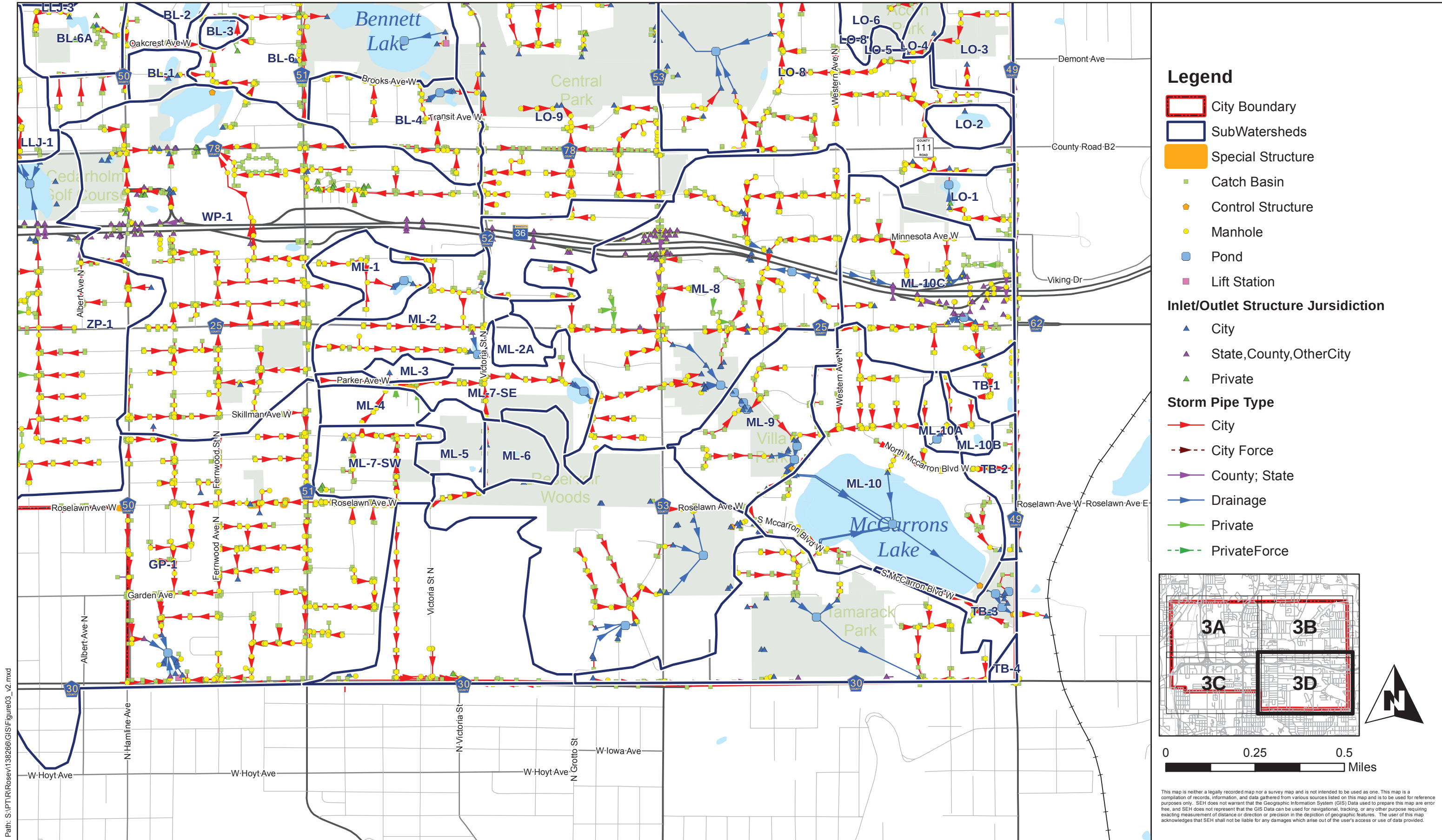
Roseville, Minnesota

Storm Sewer and
Sub-Watershed
Map

Figure
3A



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Legend

City Boundary

SubWatersheds

Special Structure

Catch Basin

Control Structure

Manhole

Pond

Lift Station

Inlet/Outlet Structure Jursidiction

City

State,County,OtherCity

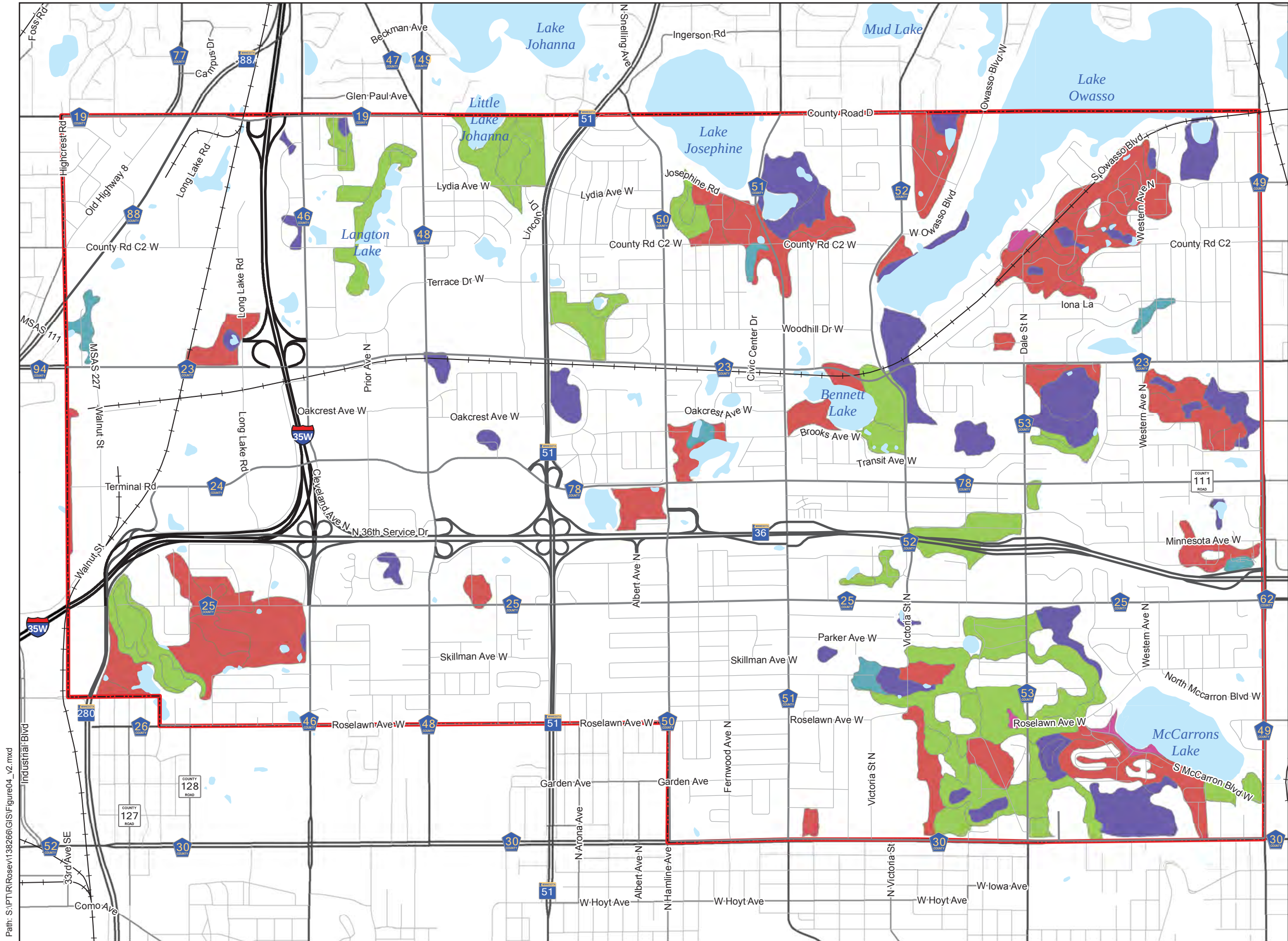
Private

Storm Pipe TypeCityCity ForceCounty; StateDrainagePrivatePrivateForce

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Miles

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Legend

City Boundary

Hydrologic Soil Group Classification

- A
- A/D
- B
- B/D
- C

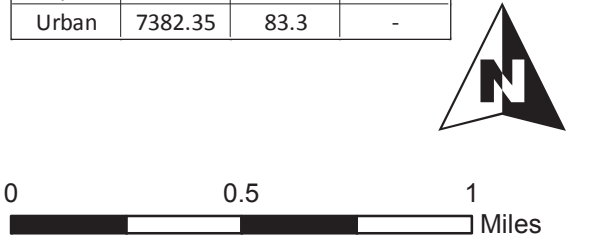
Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

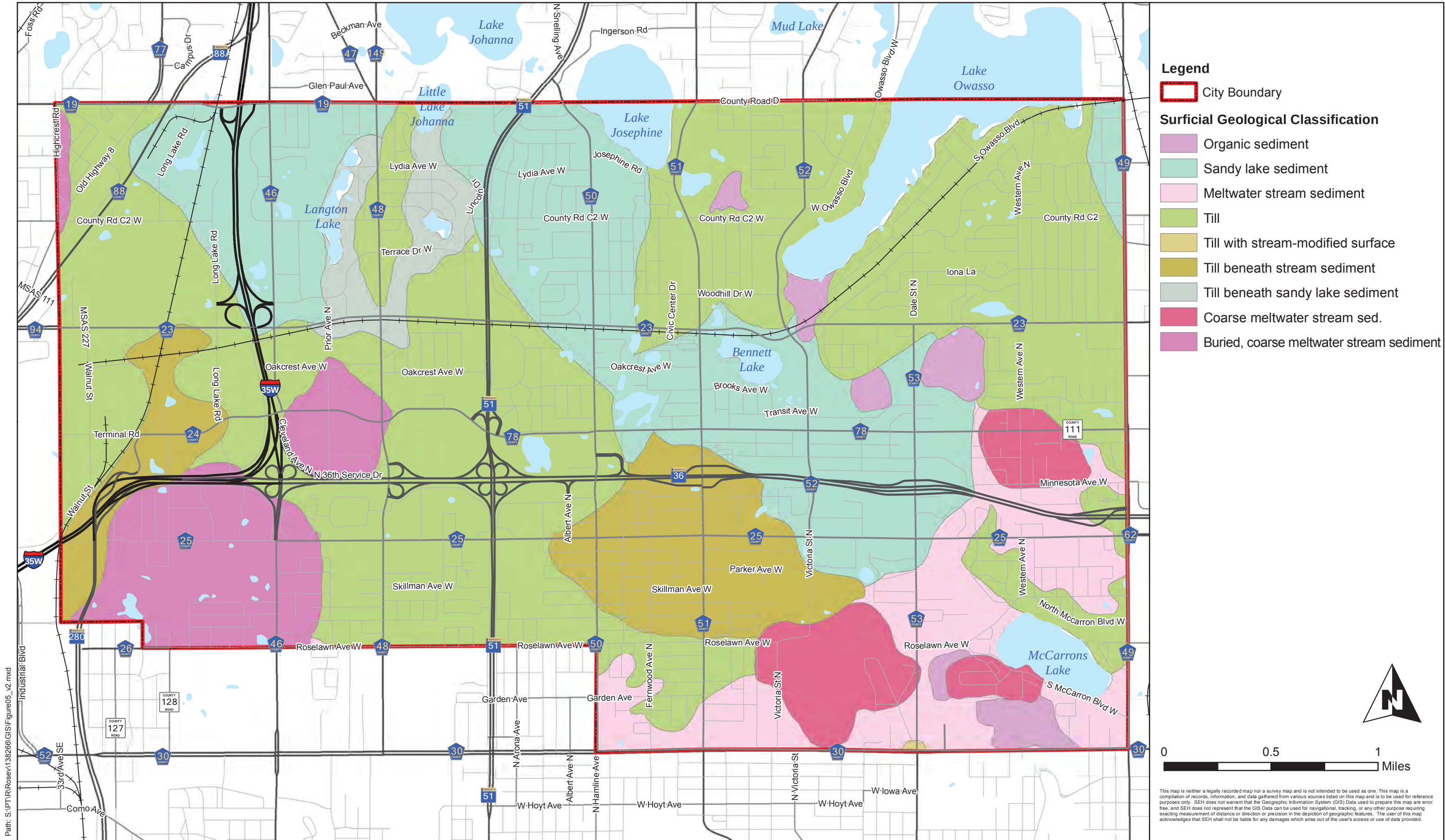
Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Soil Group	Area (ac)	Portion of Total Area, %	Portion on Non-Urban Area, %
A	503.411	5.7	33.9
B	616.402	7.0	41.5
C	11.818	0.1	0.8
A/D	38.14	0.4	2.6
B/D	313.972	3.5	21.2
Urban	7382.35	83.3	-



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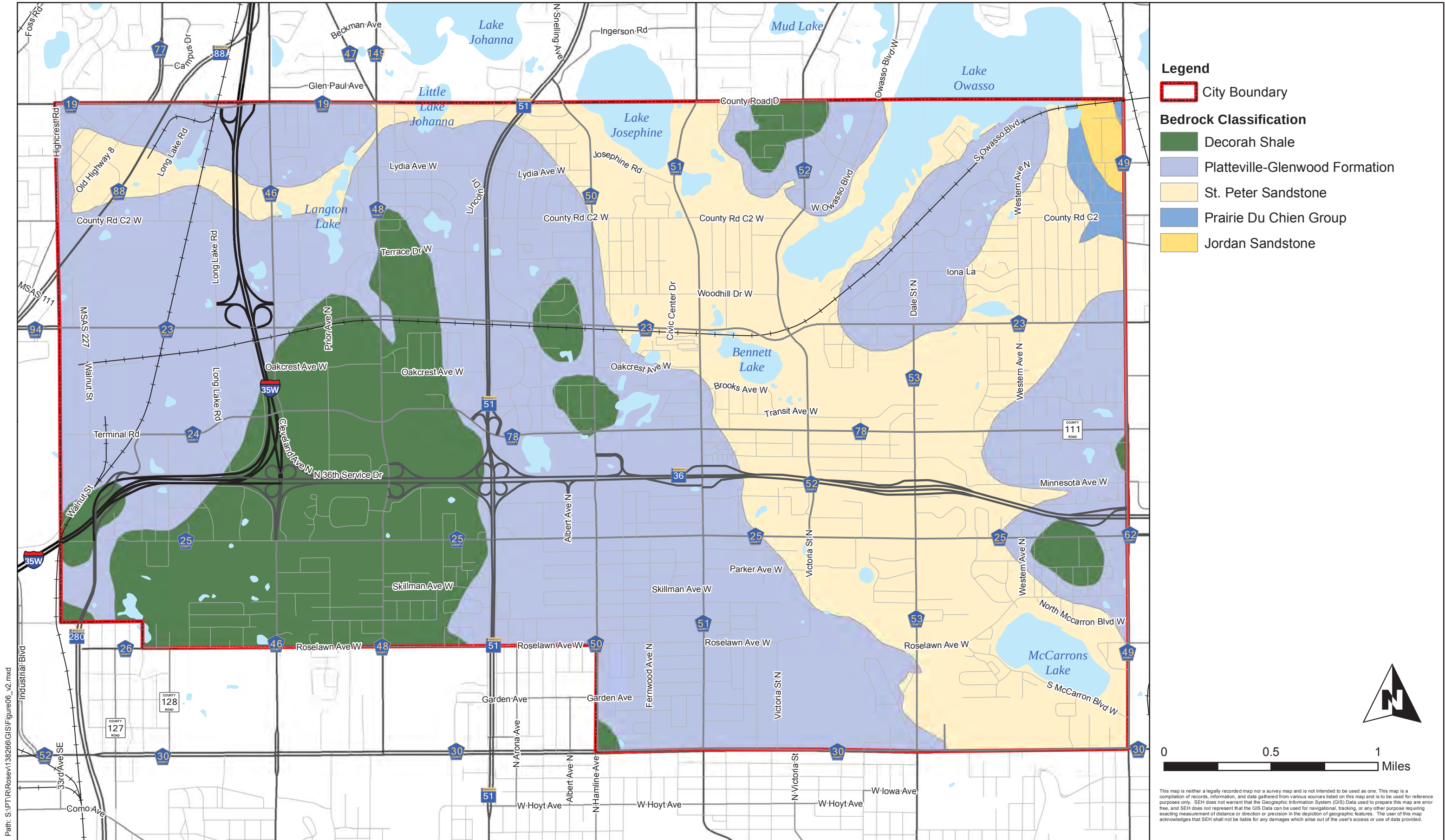
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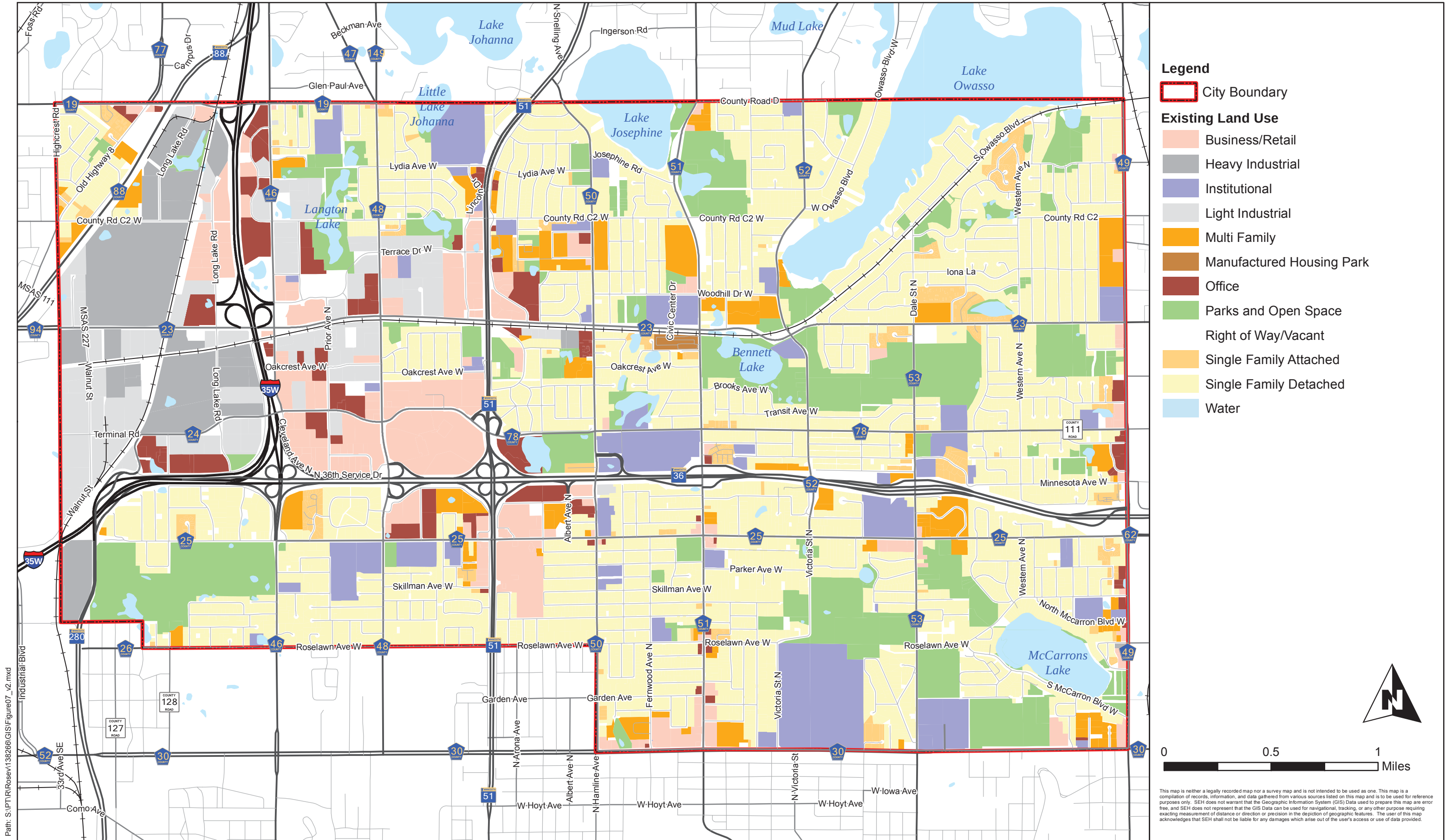
Roseville, Minnesota

Surficial Geology

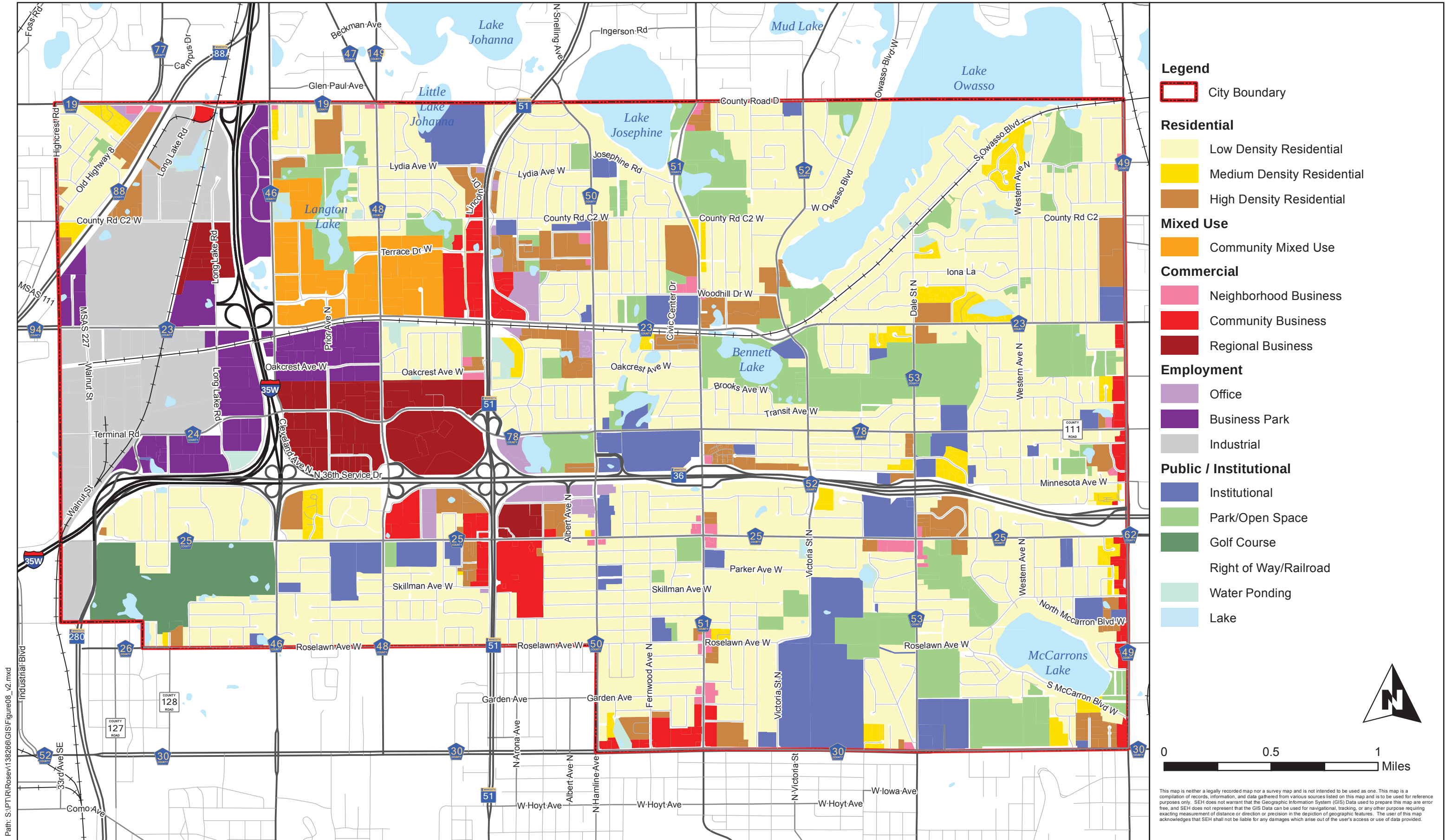
Figure
5



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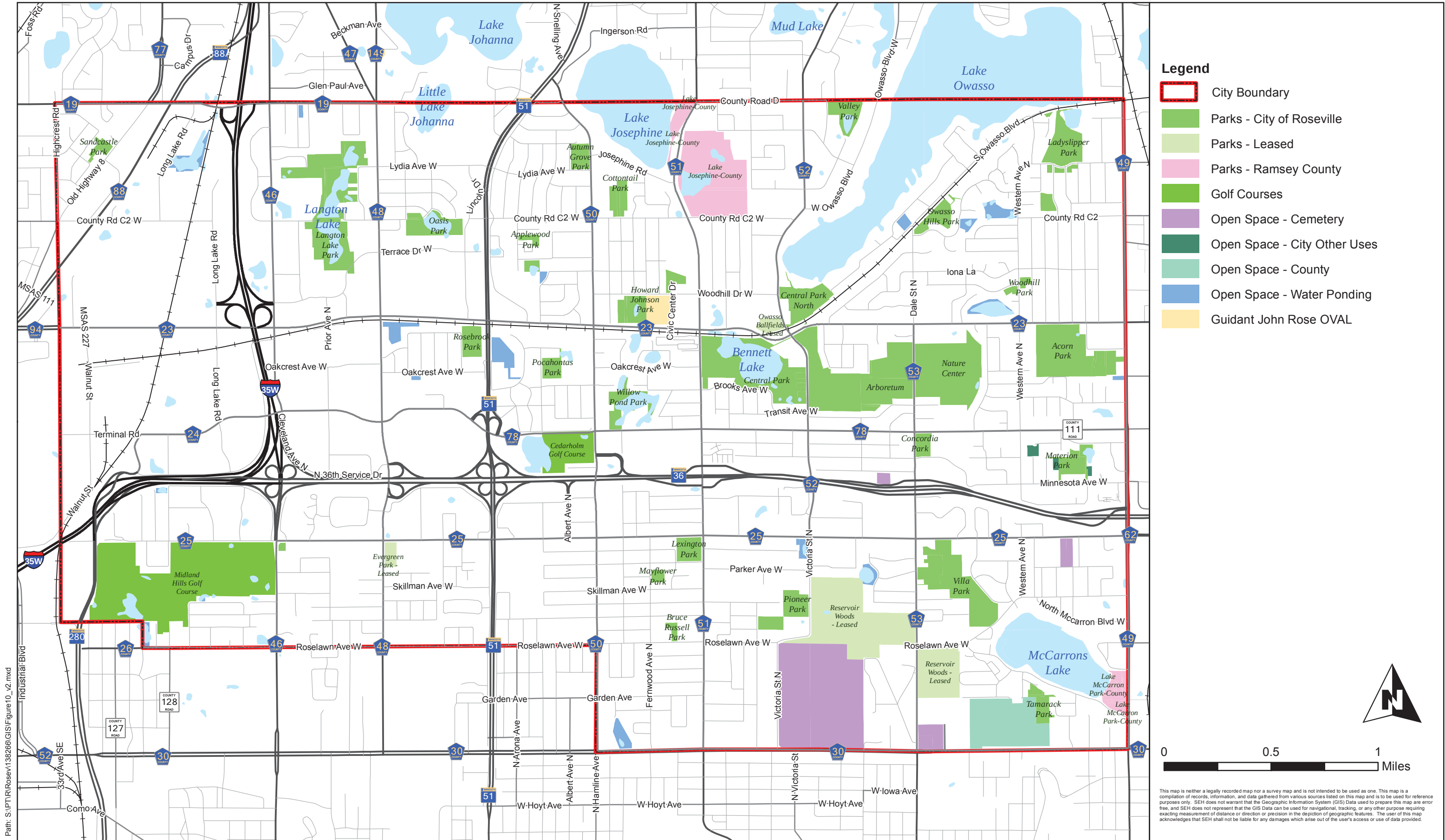
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2040 Planned
Land Use

Figure
8



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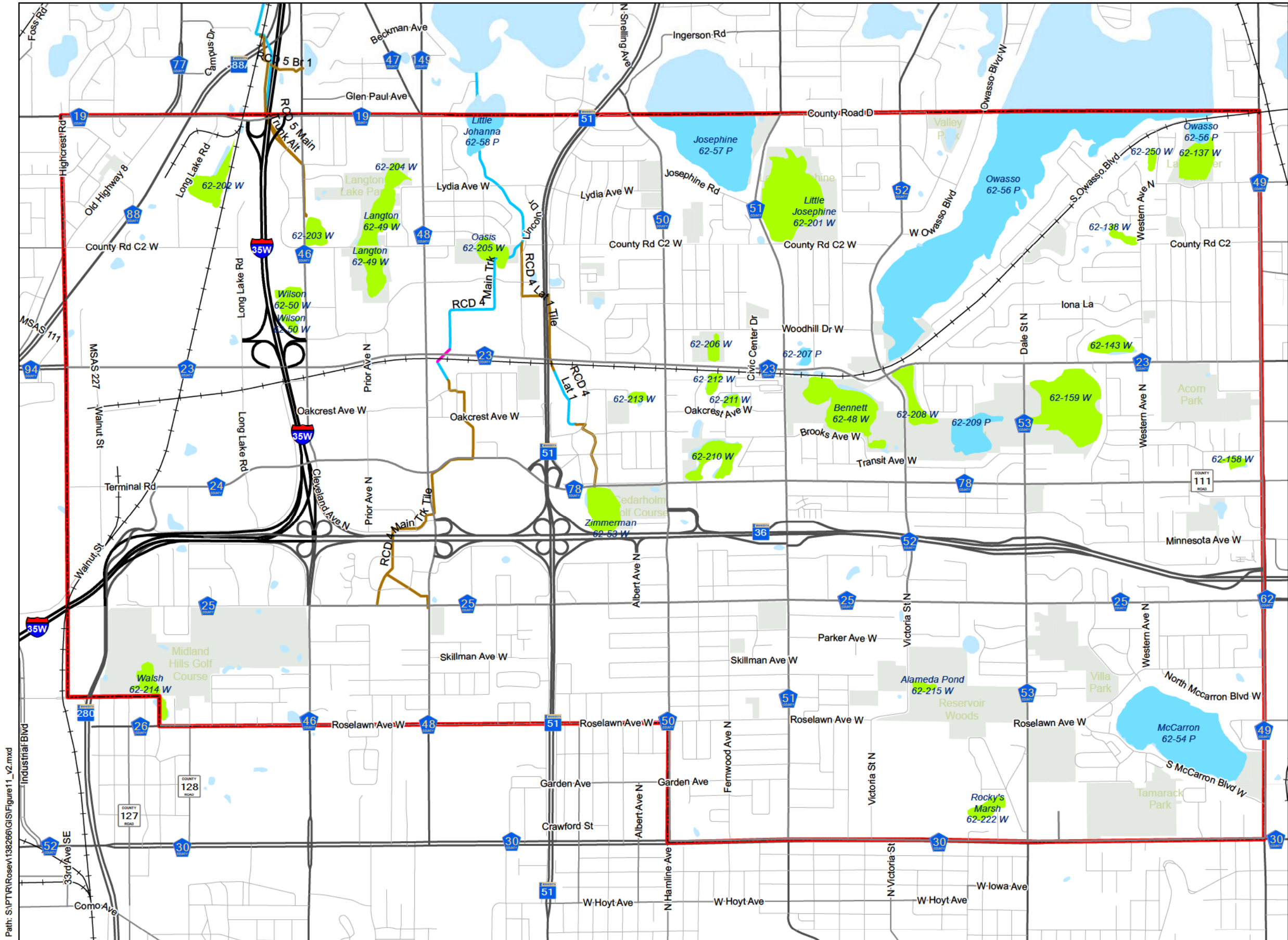
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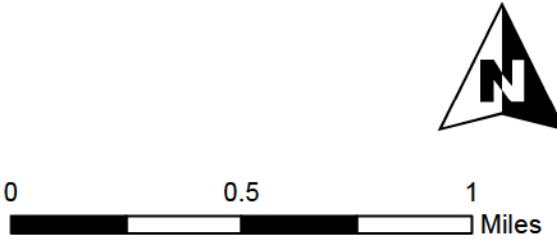
Roseville, Minnesota

**Parks and
Open Space**

**Figure
10**

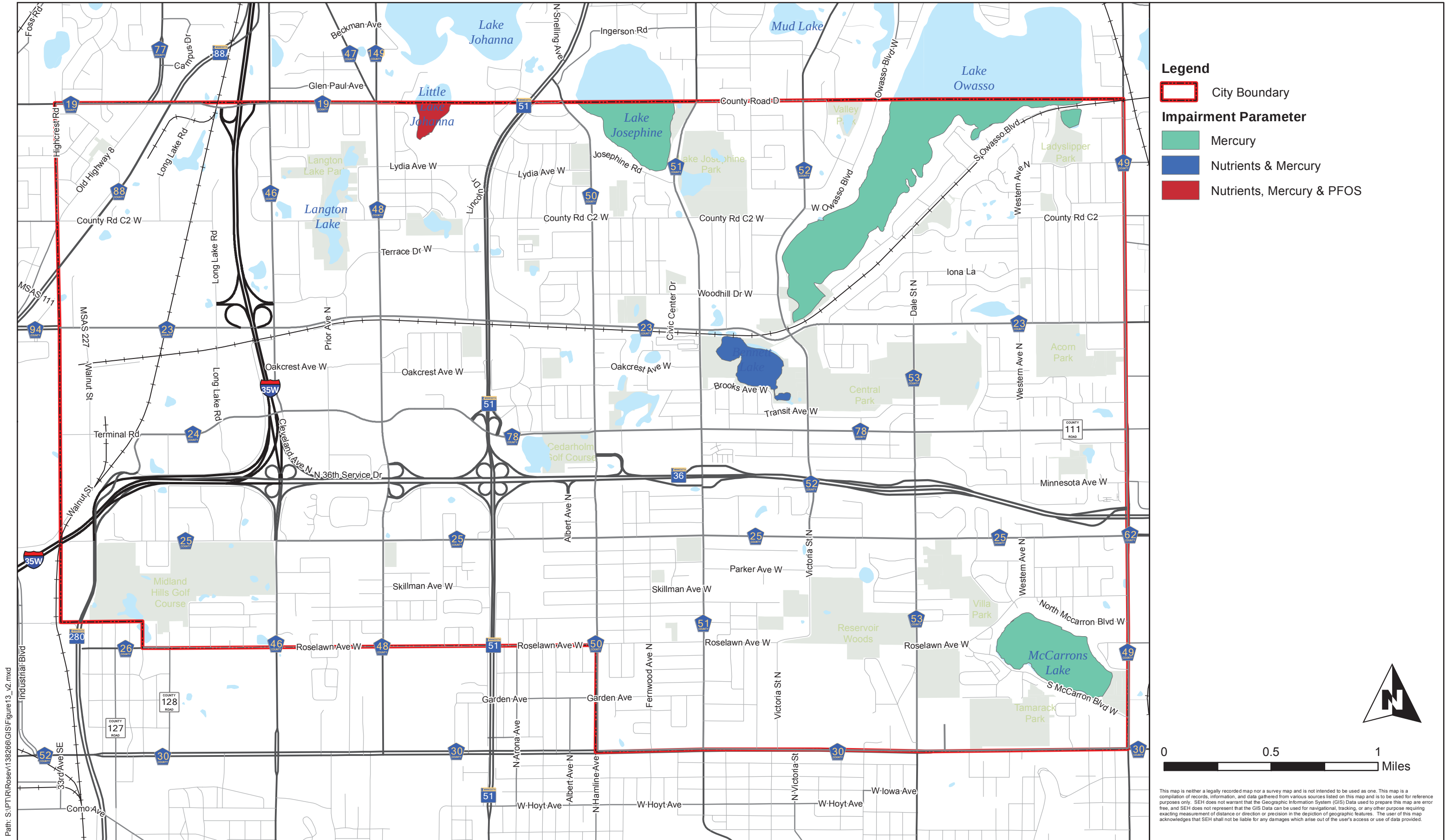


- Legend**
- City Boundary
 - Public Waters Classification**
 - Public Water Basin
 - Public Water Wetland
 - Public Ditch - Open Channel
 - Public Ditch - Storm Sewer
 - Public Ditch - Tile



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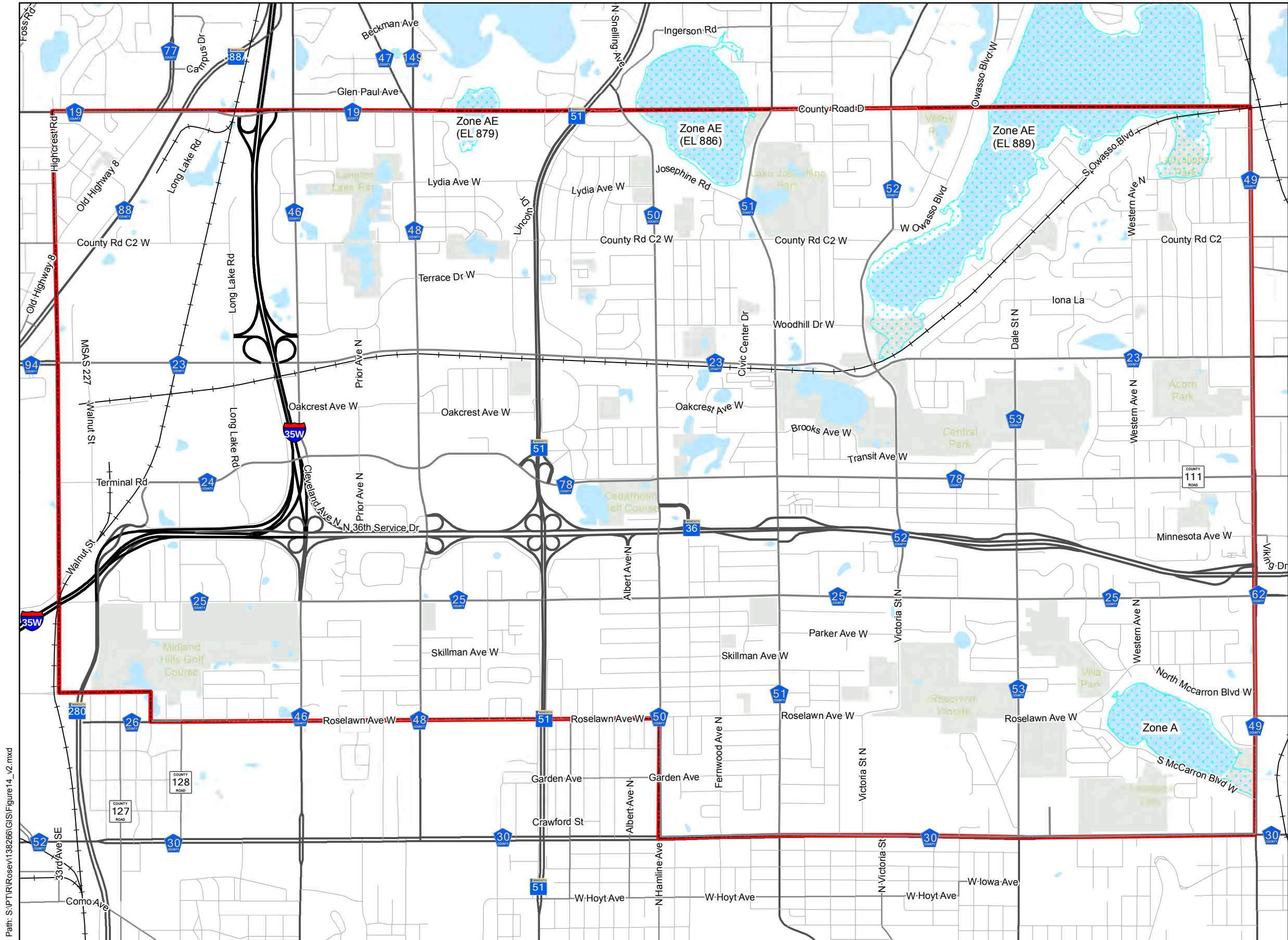
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Roseville, Minnesota

Impaired Waters

Figure
13



Legend

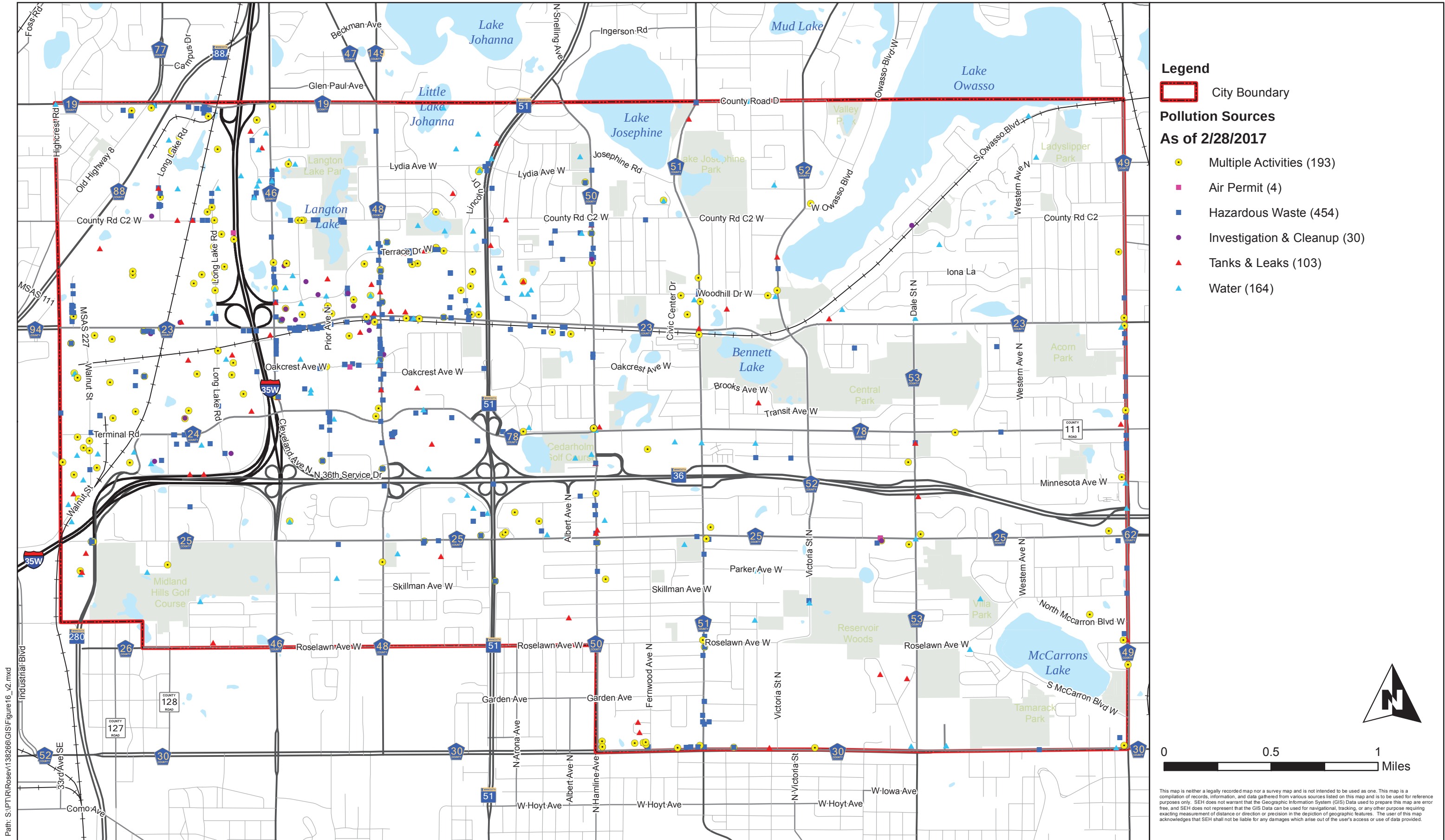
City Boundary

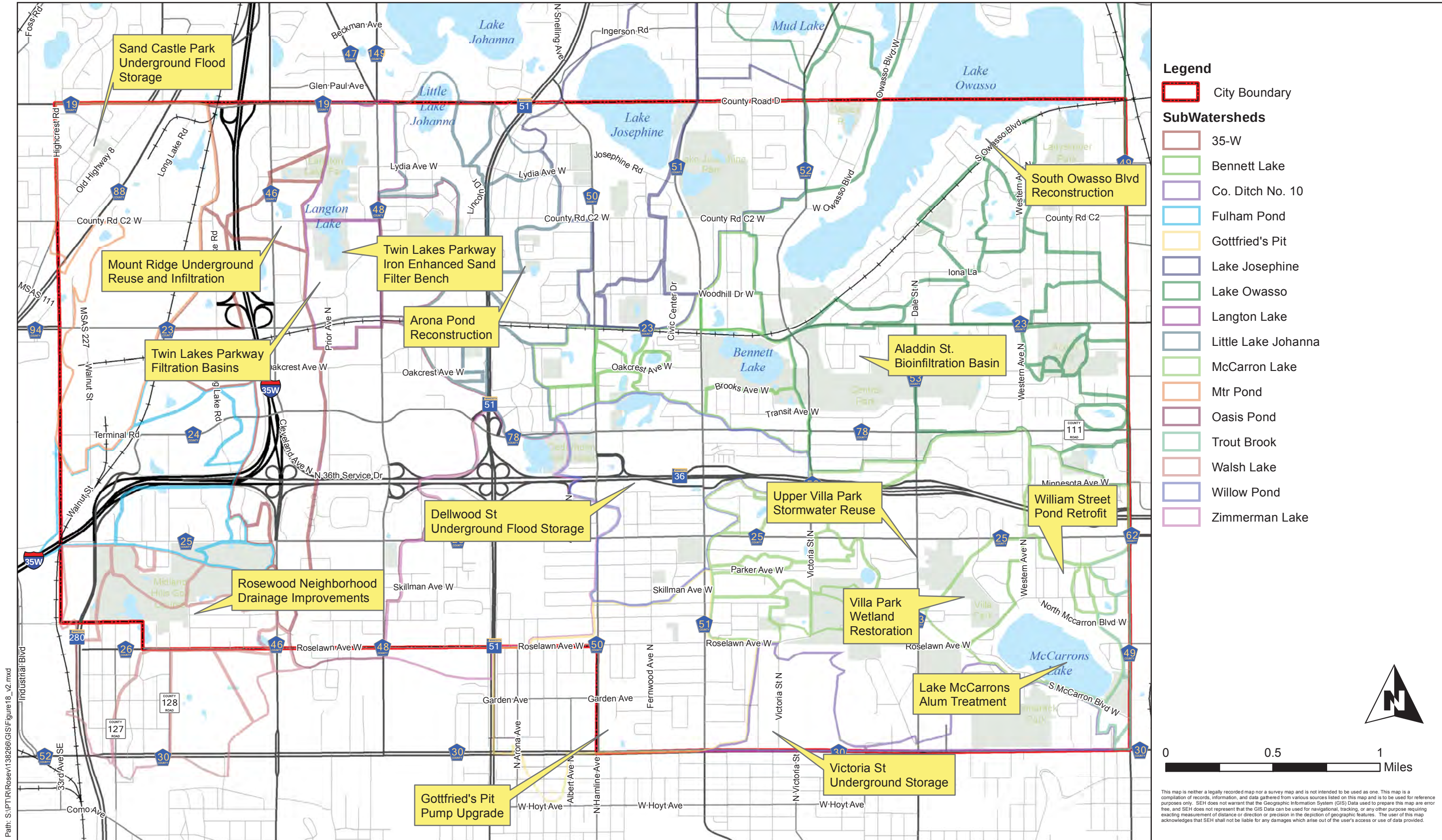
Special Flood Hazard Areas

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A and AE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

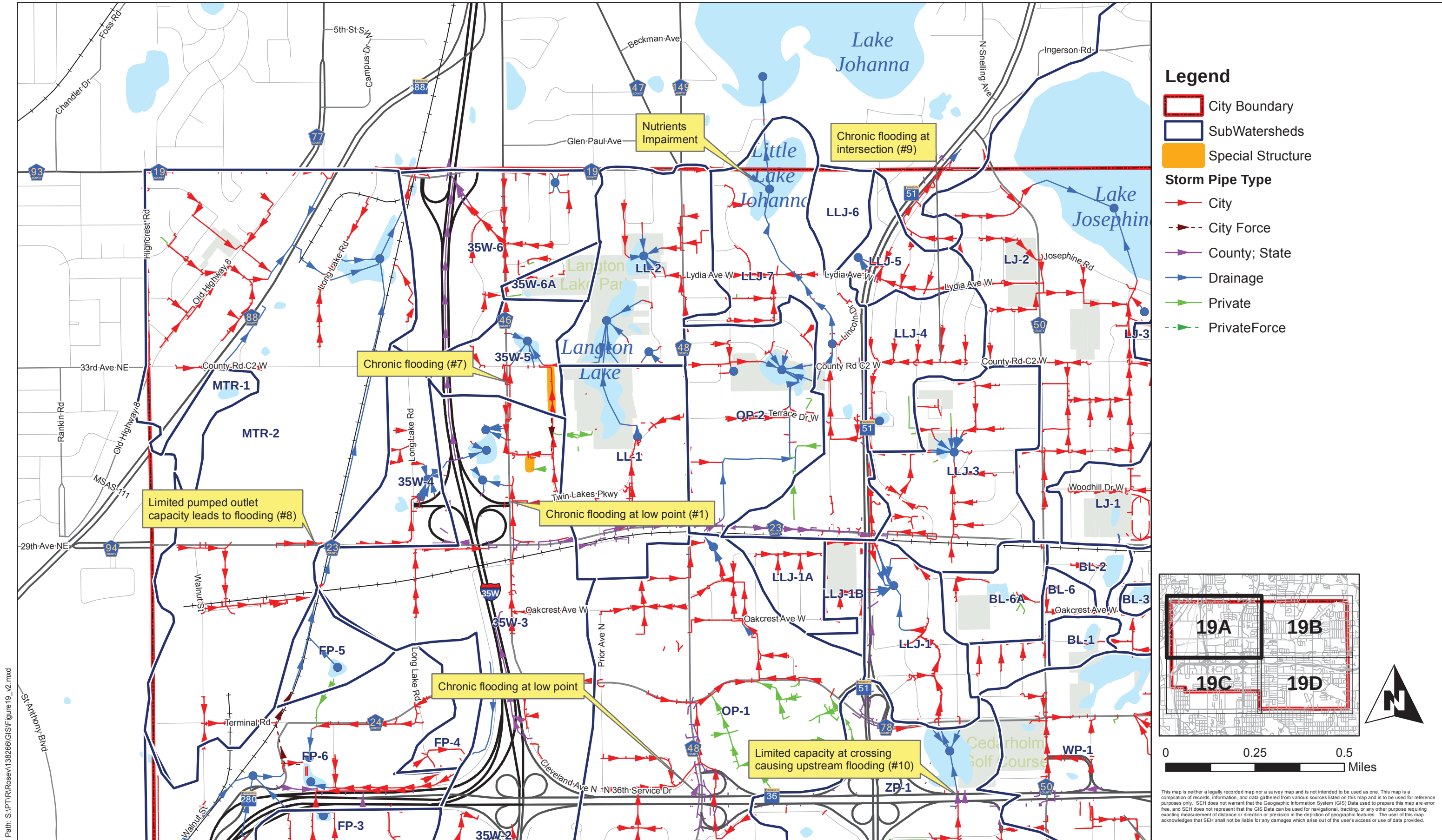
Zone A	No Base Flood Elevations determined
Zone AE	Base Flood Elevations determined
Zone X	Areas outside 0.2% annual chance flood

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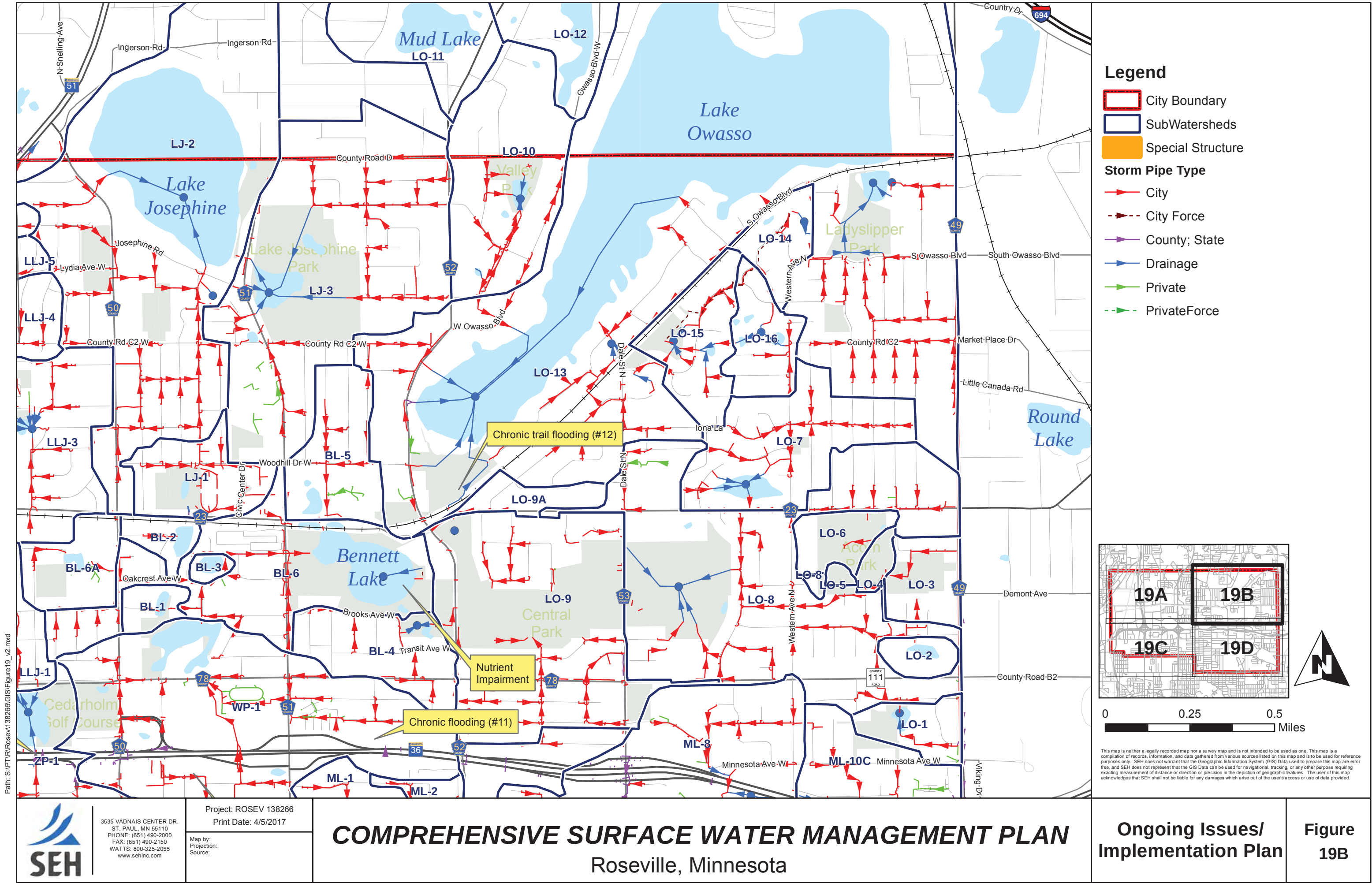


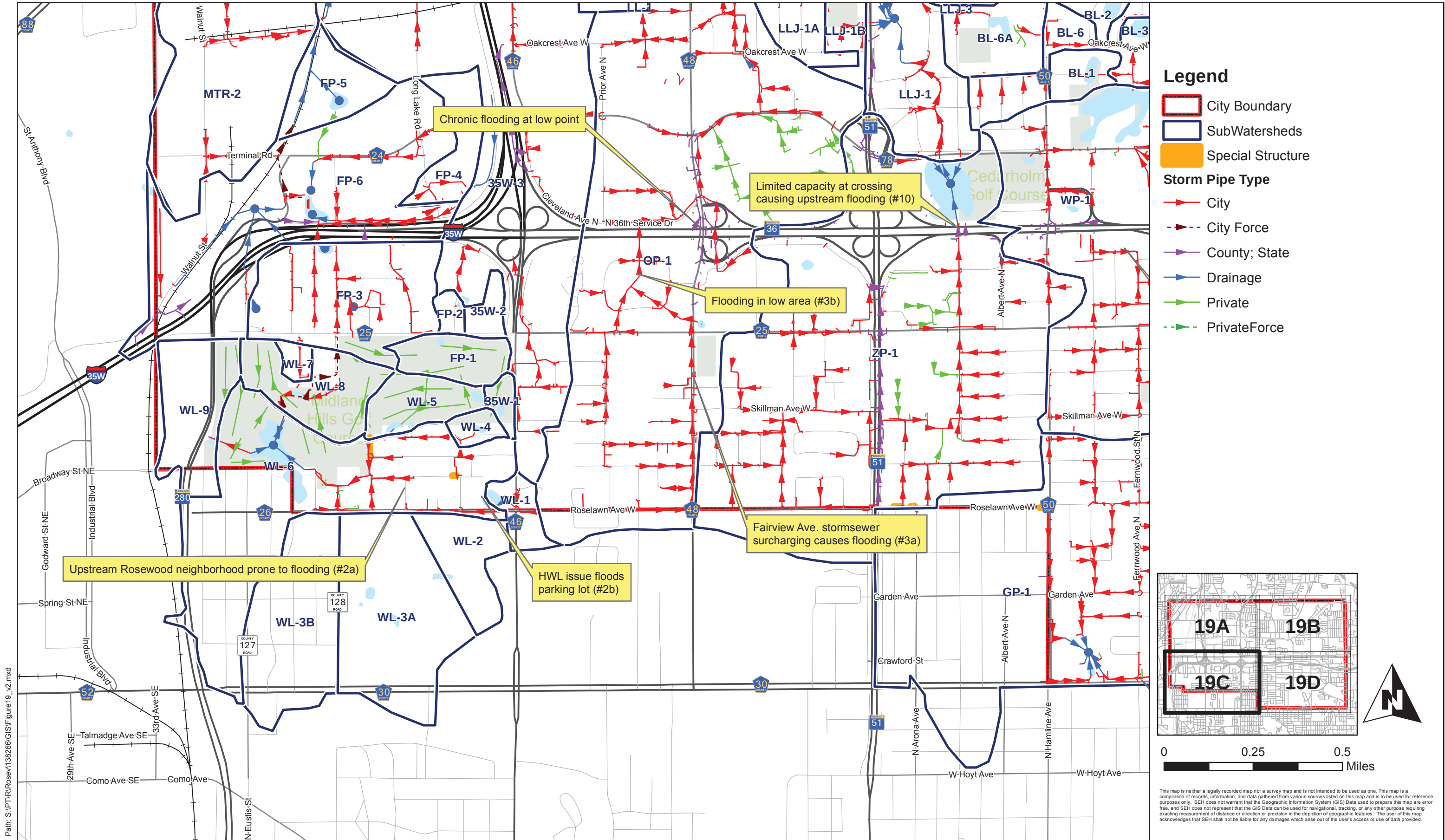


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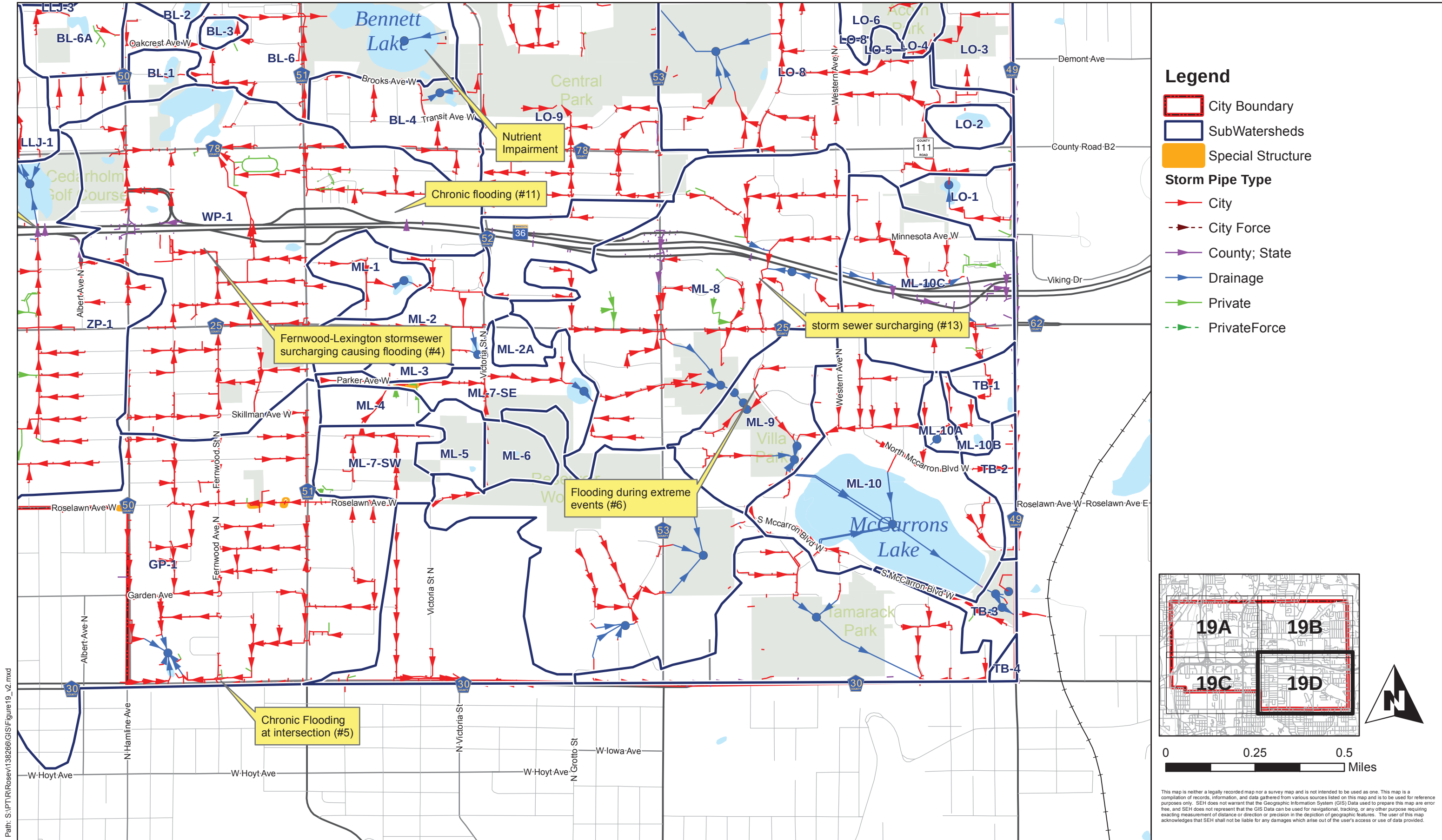
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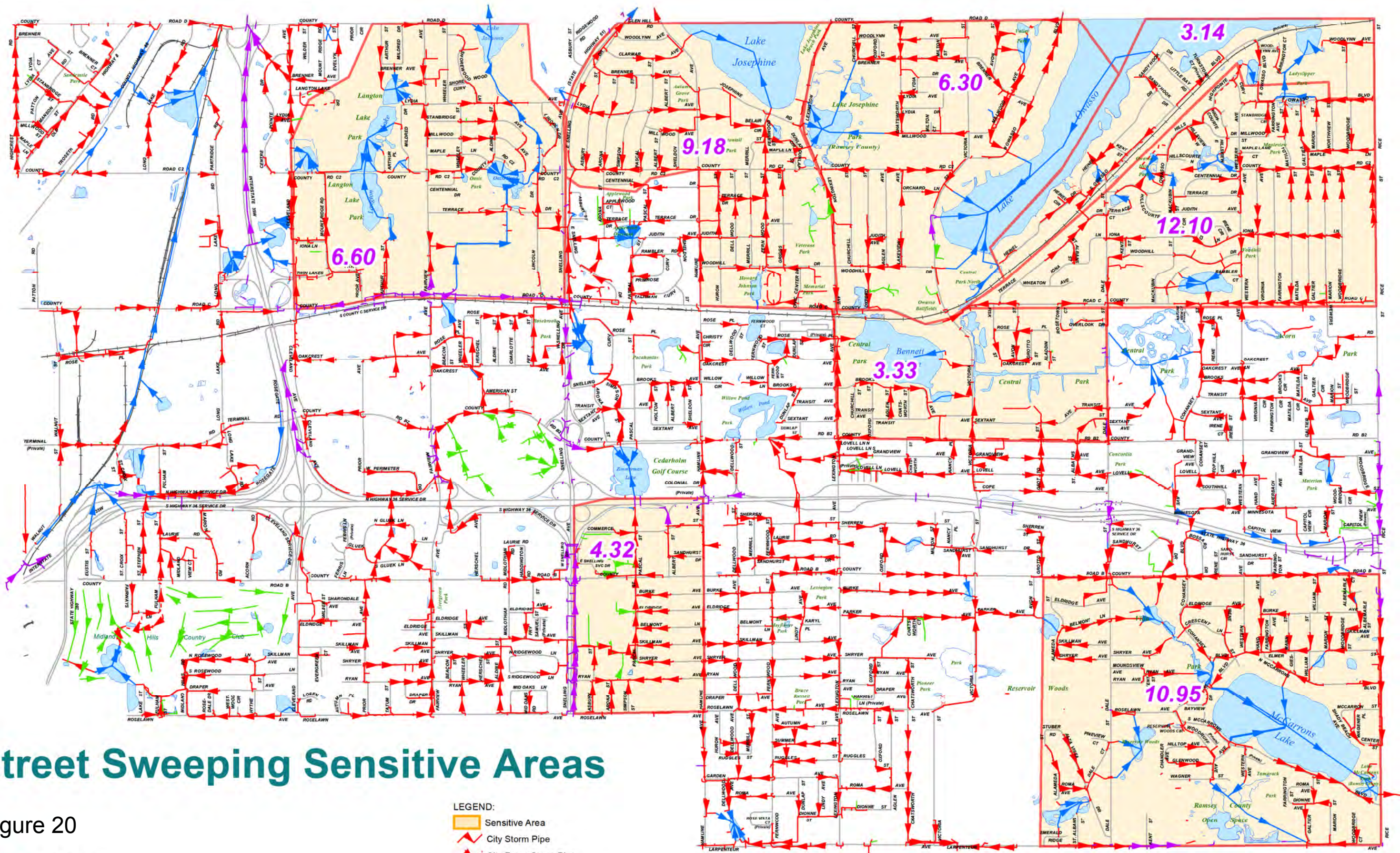
Roseville, Minnesota

Ongoing Issues/
Implementation Plan

Figure
19C



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Street Sweeping Sensitive Areas

Figure 20

Appendix A

Acronym Dictionary

ACRONYMS

BMP	Best Management Practice
BPA	Bisphenol A
BWSR	Board of Water and Soil Resources
CRWD	Capitol Region Watershed District
CSWMP	Comprehensive Surface Water Management Plan
CWA	Clean Water Act
DNR	Department of Natural Resources
EDC	Endocrine Disrupting Compound
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
LGU	Local Government Unit
MDH	Minnesota Department of Health
MPCA	Minnesota Pollution Control Agency
MS4	Municipal Separate Storm Sewer System
MSL	Mean Sea Level
NFIP	National Flood Insurance Program
NPDES	National Pollution Discharge Elimination System
NURP	National Urban Runoff Program
NWI	National Wetland Inventory
NWS	National Weather Service
OHW	Ordinary High Water
PAH	Polycyclic Aromatic Hydrocarbons
PBB	Polybrominated Biphenyls
PCB	Polychlorinated Biphenyls
PFC	Perfluorochemicals
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane Sulfate
PWI	Public Water Inventory
RCD	Ramsey Conservation District
RCWD	Rice Creek Watershed District
RWMWD	Ramsey-Washington-Metro Watershed District
SDWA	Source Drinking Water Act
SPRWS	Saint Paul Regional Water Service
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
TP	Total Phosphorus
TSS	Total Suspended Solids
WCA	Wetland Conservation Act
WD	Watershed District
WIMN	What's In My Neighborhood
WMO	Watershed Management Organization

Appendix B

Development Standards



Stormwater Management Standards

The City of Roseville has developed specific requirements that apply to development and redevelopment projects. These standards are intended to help achieve the water resource goals of the City's Surface Water Management Plan (SWMP) and help the City maintain compliance with the National Pollutant Discharge Elimination System (NPDES) municipal permit program. These standards highlight important aspects of the requirements for stormwater quality, discharge rate and volume control, erosion control, and illicit discharge.

These standards do not replace or supersede City ordinances, watershed district regulations, state and federal rules or permits required for the project. For a more detailed listing of requirements see the specific policies of the City's SWMP and the applicable City ordinances, or consult with City staff on your specific project.

To accomplish the goals of the SWMP, it is important to the City to have consistent approaches to evaluating proposed development and redevelopment projects. Therefore, all hydrologic, hydraulic and water quality analysis must be prepared and submitted in a format that will allow for a timely and efficient review by City staff.

Project designers and/or applicants are encouraged to schedule and complete a pre-design meeting with the City before any data will be accepted. The purpose of the meeting is to specifically address approvals and permits, pond requirements, trunk storm drain analysis, wetland impacts, water quality treatment, erosion control and discharge to lakes and sensitive wetland resources.

1) General

- a) Erosion control standards apply to all land disturbance activity unless specifically exempted by the definition of the term "land disturbance activity" in the City's Erosion and Sedimentation Control Ordinance (Roseville City Code Chapter 803.04).
- b) The City's water quality treatment requirements apply to projects which result in twenty-one thousand, seven hundred eighty (21,780) square feet or more of disturbed area or five thousand (5,000) square feet or more of new or reconstructed impervious surface, and
- c) The City's rate/ volume control requirements apply to all projects, and
- d) Projects conducting mill and overlay or other surface pavement treatments, where aggregate base is left undisturbed, on existing impervious areas are exempt from the City's water quality treatment and rate control requirements. However, requirements must be met if the project impacts the base and/or sub-base materials for 5,000 square feet or more of disturbed area.
- e) Projects in a Shoreland, Wetland Protection or Stormwater Management Overlay District may have additional requirements which are defined in Roseville City Code Chapter 1017.
- f) Any work within a wetland, surface water, or Federal Emergency Management Agency (FEMA) designated floodplain may require permits to be obtained from, but not limited to the City, watershed district, Department of Natural Resources (DNR) and Army Corps of Engineers. All applicable permits for the specific project must be obtained prior to commencing land disturbance, construction, grading, clearing, or filling activities.
- g) The Applicant shall submit the information listed in Section 8 of these Standards to the City for review.

2) Water Quality Treatment

a) Infiltration/Volume Control Requirement

- 1) For all new or reconstructed impervious portions of a project, a runoff volume based on the requirements of the governing Capitol Region (CRWD), Ramsey-Washington Metro (RWMWD), or Rice Creek Watershed District (RCWD) rules. Within all other Watershed jurisdictions, a runoff volume of 1.1 inches must be treated through infiltration practices.
- 2) For all redevelopment impervious portions of a project, a runoff volume based on the requirements of the governing Capitol Region (CRWD), Ramsey-Washington Metro (RWMWD), or Rice Creek Watershed District (RCWD) rules. Within all other Watershed jurisdictions, a runoff volume of 1.1 inches must be treated through infiltration practices.
- 3) Filtration practices that are designed for partial recharge (e.g., bioretention basin with under drains) shall receive sixty-five percent (65%) credit for infiltration/volume control. Incorporation of trees and shrubs into filtration practices is encouraged.
- 4) No more than 15% of the new or reconstructed impervious surface may be left untreated.

b) Pollutant Removal Requirements. For projects that have met the infiltration/volume control requirements above, the pollutant removal requirements are considered to be met. For projects where infiltration or filtration is not feasible or is prohibited (see Item 5.a.), the following pollutant removal standards (based on a standard Nationwide Urban Runoff Program, NURP, particle size distribution) apply prior to reaching a downstream receiving water:

- 1) For new development and redevelopment portions of a site, provide treatment to remove ninety percent (90%) total suspended solids (TSS) and sixty percent (60%) total phosphorus (TP) modeled for an annual average rainfall.

c) For areas that are unable to meet the stormwater standards, the applicant shall pay into the City's Stormwater Impact Fund to cover the cost of implementing equivalent volume reduction elsewhere in the City. The required amount to contribute to the Stormwater Impact Fund will be set annually. Money contributed to the Fund will be allocated to volume reduction projects to help offset the volume that was not achieved on the permitted development.

- (a) To be eligible to pay into the Stormwater Impact Fund, applicants must prove that stormwater bmp's are not feasible on the site and must complete the Alternative Stormwater Compliance Sequencing:

(i) Alternative Stormwater Compliance Sequencing:

The alternative compliance sequencing process includes three steps that must be followed in order to meet the volume reduction standard. The sequencing steps to be followed are:

- a. First, the applicant shall comply or partially comply with the volume reduction standard to the fullest extent practicable on-site through alternative volume reduction methods. See the questions below for more information.
- b. Second, the applicant shall meet the volume reduction standard at an offsite location or through the use of qualified banking credit.
- c. Third, as a last alternative, the applicant shall pay into the City's Stormwater Impact Fund at a \$/CF rate. The dollar amount will be approved by the City Council and will be found within the City's Fee Schedule.

3) Rate/Volume Control.

- a) Discharge rates leaving the site must not exceed the current rates for the 2, 10 and 100-year, critical duration (24-hour) storm events, using a Type II storm distribution and antecedent moisture conditions 2 (AMC-2). The runoff from pervious and impervious areas within the model shall be modeled separately (i.e. Weighted Q, SBUH weighting, etc).
- b) The City of Roseville shall apply all City standards for developments and redevelopments outside of the City limits which discharge into waterbodies or storm drainage systems within the City limits. All plan submittals shall comply with City of Roseville storm water regulations.
- c) For development and redevelopment projects affecting stormwater problem areas identified in the City's SWMP, the City requires the applicant to incorporate such practices to resolve a proportionate share of the problem through a reduction based on existing runoff volumes.
 - 1) The "problem" as defined by the City is that excess volume of water that either causes a downstream storm sewer system to exceed a 10-year/24-hour design capacity or causes a downstream waterbody to exceed its designated 100-year flood elevation at a given point.
 - 2) Within an identified area, the applicant shall provide peak rate control for the 2, 10 and 100 year 24-hour rainfall events beyond the existing condition peak rate of runoff by reducing the peak rate to $\leq 80\%$ of the existing condition.

4) Design Computations.

- a) *Hydrologic Data Format:* All hydrologic data shall be completed using NRCS methodology; i.e. HydroCAD or TR20, XP-SWMM or a comparable, City approved method. The runoff from pervious and impervious areas within the model shall be modeled separately (Weighted Q or SBUH weighting, etc).
- b) *Rainfalls:* Rainfall amounts for hydrologic analysis shall be based on the precipitation frequency estimates of NOAA Atlas 14 for the 24-hour return period from 1 to 100 Years. City of Roseville analyses shall use the values in the following table.

Rainfall Frequency	Rainfall (Inches)
2-Year 24-Hour	2.8
10-Year 24-Hour	4.2
100-Year 24-Hour	7.4

- c) *Infiltration-Prohibitive Sites:* For projects not meeting the infiltration/volume control requirement as stated in Section 2(a), design engineers and applicants shall determine the pollutant removal efficiency of the best management practices (BMPs) incorporated into the site plan using the available industry standard models, including P8 (using a standard NURP particle size distribution for the analysis), PondNET or a comparable model approved by the City.
- d) *Wet-Detention Pond Storm Water Treatment:* As an alternative to preparing a site-specific model, the development may provide a treatment volume (dead storage) of not less than two and one-half (2.5) inches multiplied by the runoff coefficient calculated over the contributing drainage area to the pond. For example, a one (1) acre impervious site with a runoff coefficient of 0.90 that drains to a common treatment pond would be required to provide a dead storage volume of 0.19 acre-feet or eight thousand two hundred (8,200) cubic feet. The Natural Resources Conservation Service Method may also be used upon City approval.

- e) *Volume Reduction Calculation:* The volume reduction (in cubic feet) provided by surface infiltration practices shall be computed using the following:
- 1) For sites required to obtain a watershed permit within CRWD, RWMWD, or RCWD jurisdiction, follow Watershed District Rule C.
 - 2) For sites that do not require a watershed district permit due to project size, provide volume calculations based on the following formula:

$$V = \text{Area} \times 1.1 \text{ inch} / 12$$

Where V = Required Volume Reduction in cubic feet (cf)

A = New or Reconstructed Impervious Area in square feet (sf)

- f) *Storm Sewer Conveyance Design:* Local storm sewer systems shall be designed for the 10-year storm event within the crown of pipe. The Rational Method shall be the preferred methodology for the design of local systems. Culvert crossings or storm systems in County or State right-of-way may have a design frequency which differs from the City's 10-year design storm. The designer shall contact each agency/unit of government to determine the appropriate design frequency for hydrologically-connected systems.
- g) *Outfall Energy Dissipation:* For culvert outlet velocities less than or equal to four (4) feet per second (fps), check shear stress to determine if vegetation or riprap will be adequate. If vegetation is used, temporary erosion control during and immediately following construction shall be used until vegetation becomes established. For velocities greater than four (4) fps, energy dissipaters shall be designed in accordance with Mn/DOT Design Criteria.
- h) *Landlocked Basin HWL Determination:* High water elevations for landlocked areas (basins where no outlet exists) shall be established by first estimating the normal or initial water surface elevation at the beginning of a rainfall or runoff event using a documented water budget, evidence of mottled soil, and/or an established ordinary high water level. The high water level analysis shall be based on runoff volume resulting from a 100-year/10-day runoff (10.0 inches and saturated or frozen soil conditions [CN=100]) or the runoff resulting from a 100-year back-to-back event (7.4 inches followed by 7.4 inches). The high water elevation shall be the higher of these two conditions.
- i) *Building Low Opening:* The lowest floor openings of all buildings shall be set:
- 1) At least two (2) feet above the 100-year high water elevation and at least one (1) foot above a designated emergency overflow.
 - 2) For landlocked basins, at least two (2) feet above the higher of the elevations determined in Part 4h.
- j) *No Net Loss of Storage Capacity:* If encroachments within storm water retention basins are approved by the City Engineer, then calculations indicating the volume of encroachment and plans for volume mitigation must be submitted.

5) Volume Control/Infiltration Practices Design Criteria.

- a) Infiltration systems are prohibited:
- 1) Where the bottom of the infiltration basin is less than three (3) feet to bedrock or the seasonally high water table;

- 2) Low permeability soils (i.e., Hydrologic Soil Group C& D soils) or where a confining layer exists below the proposed basin;
 - 3) Within fifty (50) feet of a public or private water supply well (Minn. Rules, Chapter 4725);
 - 4) Potential storm water hot spots or contaminated soils (filling stations, industrial, etc.);
 - 5) Within ten (10) feet of a property line or building foundation; and
 - 6) Within thirty-five (35) feet of a septic system tank or drain field.
 - 7) Within a Drinking Water Supply Management Area (DWSMA)
 - 8) Where soil infiltration rates are greater than 8.3"/hr.
- b) Infiltration practices must be designed to draw down to the bottom elevation of the practice within forty-eight (48) hours. The pond depth shall be based on the soil infiltration rate determined from site-specific soils investigation data taken from the location of proposed infiltration practices on the site (e.g., double ring infiltrometer test). The maximum pond depth, regardless of infiltration rate shall be two (2) feet unless otherwise approved by the City Engineer. The soils investigation requirement may be waived for residential property practices where the maximum pond depth is one (1) foot or less. The following infiltration rates shall be used for the most restrictive underlying soil unless otherwise supported by an *in-situ* infiltration test:

Soil Group	Rate	Soil Textures	ASTM Unified Soil Class Symbols
A	1.63 in/hr	Gravel, sand, sandy gravel, silty gravel, loamy sand, sandy loam	GW, GP
	0.80 in/hr		GM, SW, SP
B	0.45 in/hr	Loam, silt loam	SM
	0.30 in/hr		ML, OL
C	0.20 in/hr	Sandy clay loam	GC, SC
D	0.06 in/hr	Clay loam, silty clay loam, sandy clay, silty clay, or clay	CL, CH, OH, MH

Source: *Minnesota Storm water Manual, January 2014.1*

- c) Infiltration practices shall have provisions for pretreatment of the runoff. Examples of pretreatment include: a mowed grass strip between a curb-cut and a small rain garden, a sump manhole or manufactured sediment trap prior to an infiltration basin, and a sediment forebay as the first cell of a two-cell treatment system. Where the infiltration system captures only clean runoff (e.g., from a rooftop) pretreatment may not be required.
- d) The design shall incorporate a diversion or other method to keep construction site sediment from entering the infiltration system prior to final stabilization of the entire contributing drainage area.
- e) The design shall incorporate provisions, where infiltration practices are proposed, that will prohibit the compaction of soils by construction equipment.

- f) A plan for maintenance of the system must be submitted that identifies the maintenance activities and frequency of activities for each infiltration practice on the site. A signed maintenance agreement will be required by the City.
- 6) Pond and Additional Infiltration System Design Criteria. Newly constructed or expanded/modified ponds and basins shall be designed and constructed to meet the following:
- a) All ponds or basins shall:
- 1) Have a 4:1 maximum slope (above the normal water level [NWL] and below the 10:1 bench, if a wet pond);
 - 2) Maximize the separation between inlet and outlet points to prevent short-circuiting of storm flows;
 - 3) Have an emergency overflow spillway identified and designed to convey storm flows from events greater than the 100-year event; and
 - 4) Be made accessible for maintenance and not be entirely surrounded by steep slopes or retaining walls which limit the type of equipment that can be used for maintenance. Vehicle access lane(s) of at least ten (10) feet shall be provided, at a slope less than fifteen percent (15%) from the access point on the street or parking area to the pond, to accommodate maintenance vehicles. Maintenance agreements will be required when the pond is not located on City property.
- b) All wet ponds shall:
- 1) Have an aquatic bench having a 10:1 (H:V) slope for the first ten (10) feet from the NWL into the basin;
 - 2) Have inlets be placed at or below the NWL;
 - 3) Have a skimming device designed to remove oils and floatable materials up to a five (5) year frequency event. The skimmer shall be set a minimum of twelve (12) inches below the normal surface water elevation and shall control the discharge velocity to 0.5 feet per second.
 - 4) Have an average four (4) feet of permanent pool depth (dead storage depth). This constraint may not be feasible for small ponds (less than about three [3] acre-feet in volume or less). In such cases, depths of three to four (3-4) feet may be used. To prevent development of thermal stratification, loss of oxygen, and nutrient recycling from bottom sediments, the maximum depth of the permanent pool should be less than or equal to ten (10) feet.
- 7) Erosion and Sediment Control (Roseville City Code Chapter 803.04)
- a) The City's Erosion Control Ordinance shall be followed for all projects, including those not regulated under the NPDES construction permit.
- b) Prior to the start of any excavation or land disturbing activity for the site, the Applicant or contractor must have in place a functional and approved method of erosion and sediment control. The contractor must have received authorization from the City prior to commencing construction activities.
- c) Development projects subject to the NPDES Construction Permit shall meet the requirements of the NPDES permit program, including the requirement to prepare and follow a storm water pollution prevention plan (SWPPP). The Applicant shall submit proof of receipt and approval by Minnesota Pollution Control Agency and/or watershed district of the permit application prior to commencing construction if required. A copy of the SWPPP prepared in accordance with the NPDES permit requirements, shall be submitted to the City if requested by the City Engineer.

8) Storm Water Plan Submittals.

- a) Property lines and delineation of lands included in the project application.
- b) Delineation of the subwatersheds contributing runoff from off-site, and proposed and existing subwatersheds on-site.
- c) Location, alignment and elevation of proposed and existing storm water facilities.
- d) Delineation of existing on-site wetlands, shoreland and/or floodplain areas. Removal or disturbance of stream bank and shoreland vegetation should be avoided. The plan shall address how unavoidable disturbances to this vegetation will be mitigated per the City's ordinances.
- e) Existing and proposed inlet and outlet elevations
- f) The 10-year and 100-year high water elevations on-site. For landlocked basins, the higher of the elevations determined in Part 4h. of these standards shall also be identified.
- g) The lowest opening elevation of all buildings and structures.
- h) Existing and proposed site contour elevations related to NGVD, 1929 datum.
- i) Construction plans and specifications of all proposed storm water management facilities.
- j) Storm water runoff volume and rate analyses for existing and proposed conditions.
- k) All hydrologic and hydraulic computations completed to design the proposed storm water quality management facilities. Computations shall include a summary of existing and proposed impervious areas.
- l) All pollutant removal computations for practices not meeting the volume control/infiltration requirement.
- m) Provision of outlots or easements for maintenance access to detention basins, retention basins, constructed wetlands, and/or other storm water management facilities.
- n) Maintenance agreement between applicant and City which addresses sweeping, pond inspection, sediment removal and disposal, etc.
- o) Inlets to detention basins, wetlands, etc., shown at or below the outlet elevation.
- p) Identification of receiving water bodies (lakes, streams, wetlands, etc).
- q) Identification of existing and abandoned wells and septic tanks on the development site.
- r) Documentation indicating conformance with these standards.

9) Prohibition of Illicit Discharges (Roseville City Code Chapter 803.03). No person shall throw, drain, or otherwise discharge, cause, or allow others under its control to throw, drain, or otherwise discharge into the municipal separate storm sewer system any pollutants or waters containing any pollutants other than stormwater, i.e., swimming pool water which contains pollutants not found in stormwater. The following discharges are exempt from the prohibition provision above:

- a) Non-stormwater that is authorized by an NPDES point source permit obtained from the MPCA, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order

and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the (municipal/county) separate storm sewer system.

- b) Water line flushing or other potable water sources, landscape irrigation or lawn watering, diverted stream flows, rising ground water, ground water infiltration to storm drains, uncontaminated pumped ground water, foundation or footing drains (not including active groundwater dewatering systems), crawl space pumps, air conditioning condensation, springs, non-commercial washing of vehicles, natural riparian habitat or wetland flows, dechlorinated swimming pools and any other water source not containing pollutants;
- c) Discharges or flows from fire fighting, and other discharges as necessary to protect public health and safety;
- d) Dye testing discharge, as long as the Public Works Director is provided verbal notification prior to the time of the test.

Appendix C

Applicable City Code

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- Chapter 408 Lawn Fertilizer/Pesticides
 - Chapter 410 Coal Tar Based Sealer Products
 - Chapter 803 Stormwater Drainage
 - Chapter 1017 Shoreland, Wetland and Stormwater Management
 - Chapter 1021 Floodplain Regulations

CHAPTER 408

LAWN FERTILIZER / PESTICIDES

SECTION:

- 408.01: Purpose
- 408.02: Commercial Applicator Regulations
- 408.03: General Regulations
- 408.04: Pesticide Application Warning Signs

408.01: PURPOSE:

The City has conducted studies and has reviewed existing data to determine the current and projected water quality of various lakes within its community. The data indicates that lake water quality may be maintained and improved if the City is able to regulate the amount of lawn fertilizer and other chemicals entering the lakes as a result of storm water runoff or other causes. The purpose of this Section is to define regulations which will aid the City in maintaining and improving lake resources which are enjoyed by its residents and other users. (Ord. 1024, 11-23-87)

408.02: COMMERCIAL APPLICATOR REGULATIONS:

- A. License Required: No person shall engage in the business of commercial lawn fertilizer applicator within the City unless a license has been obtained from the City Manager, as provided in subsection 408.02B.
- B. License Application Procedure: Applications for a commercial lawn applicator license for a calendar year shall be submitted to the City Manager at least 30 days prior to the initial lawn fertilizer application each year within the City. The application shall consist of the following:
 - 1. Application Form: Application forms shall be provided by the City and shall include the following information:
 - a. Name, address and telephone number of applicant and any individuals authorized to represent the applicant.
 - b. Description of lawn fertilizer formula proposed to be applied on lawns within the City.
 - c. A time schedule for application of lawn fertilizer and identification of weather conditions acceptable for lawn fertilizer application.
 - 2. Fertilizer Sample: A chemical analysis of a sample of the lawn fertilizer shall be submitted to the City along with the initial application for a license and at least 30 days before fertilizer composition changes are implemented. Said analysis shall be certified by an independent testing laboratory.
 - 3. License Fee: The annual license fee for a commercial lawn fertilizer applicator shall be as established by the City Fee Schedule in Section 314.05. The license shall expire on December 31. The license fee shall not be prorated. (Ord. 1379A, 11-17-2008)
- C. Conditions of License: Commercial lawn fertilizer applicator licenses shall be issued subject to the following conditions which shall be specified on the license form:
 - 1. Random Sampling: Commercial lawn fertilizer applicators shall permit the City to sample any commercial lawn fertilizer application to be applied within the City at any time after issuance of the initial license.
 - 2. Possession of License: The commercial lawn fertilizer application license, or a copy

of such license, shall be in the possession of any party employed by the commercial lawn fertilizer applicator when making lawn fertilizer applications within the City.

3. State Regulations: Licensee shall comply with the provisions of the Minnesota Fertilizer, Soil Amendment, and Plant Amendment Law as contained in Minnesota Statute sections 18C.001, et seq. and amendments thereto. (Ord. 1024, 11-23-87) (Ord 1348, 5-21-2007)

408.03: GENERAL REGULATIONS:

- A. Time of Application: Lawn fertilizer applications shall not be applied when the ground is frozen or between January 1 and April 15, and between November 15 and December 31.
- B. Sample Analysis Cost: The cost of analyzing fertilizer samples taken from commercial applicators shall be paid by the commercial applicators if the same analysis indicates that the phosphate content exceeds the levels authorized in subsection 408.03C.
- C. Phosphorus use restrictions:
 - 1. A person may not apply a fertilizer containing the plant nutrient phosphorus to turf, except under conditions listed in paragraph 2.
 - 2. Paragraph 1 does not apply when:
 - a. a tissue, soil, or other test by a laboratory or method approved by the commissioner and performed within the last three years indicates that the level of available phosphorus in the soil is insufficient to support healthy turf growth;
 - b. the property owner or an agent of the property owner is first establishing turf via seed or sod procedures, and only during the first growing season; or
 - c. the fertilizer containing the plant food phosphorus is used on a golf course under the direction of a person licensed, certified, or approved by an organization with an ongoing training program approved by the commissioner.
 - 3. Applications of phosphorous fertilizer authorized under paragraph 2 must not exceed rates recommended by the University of Minnesota and approved by the commissioner. (Ord.1348, 5-21-2007)
- D. Impervious Surfaces: No person shall apply fertilizer to impervious surfaces.
- E. Buffer Zone: Fertilizer applications shall not be made within 50 feet of any wetland or water resource. (Ord. 1024, 11-23-87) (Ord.1348, 5-21-2007)

408.04: PESTICIDE APPLICATION WARNING SIGNS

- A. Warning Signs Required: All commercial applicators who apply pesticides and non-commercial applicators who apply pesticides in parks, golf courses, athletic fields, playgrounds, or other similar recreational property, must post warning signs on the property where the pesticides are applied in accordance with Minnesota Statute Section 18B.09.
- B. Sign Requirements:
 - 1. Warning signs must project at least 18 inches above the top of the grass line.
 - 2. Warning signs must be of a material that is rain-resistant for at least a 48-hour period and must remain in place at least 48 hours after the time of initial application.
 - 3. Warning signs must contain the following information printed in contrasting colors and capitalized letters measuring at least one-half inch:
 - a. The name of the business organization, entity, or person applying the pesticide; and
 - b. The following language: "This area chemically treated. Keep children and pets off until _____ (date of safe entry)."
 - 4. The warning sign may include the name of the pesticide used.

5. Warning signs must be posted on a lawn or yard between two feet and five feet from the sidewalk or street. For parks, golf courses, athletic fields, playgrounds, or other similar recreational property, the warning signs must be posted immediately adjacent to areas within the property where pesticides have been applied and at or near the entrances to the property.

(Ord. 1348, 5-21-2007)

CHAPTER 410

COAL TAR BASED SEALER PRODUCTS

SECTION:

- 410.01: Purpose
- 410.02: Definitions
- 410.03: Prohibitions
- 410.04: Exemption
- 410.05: Asphalt-Based Sealcoat Products
- 410.06: Penalty
- 410.07: Severability

410.01: PURPOSE

The City of Roseville understands that lakes, rivers, streams and other bodies of water are natural assets which enhance the environmental, recreational, cultural and economic resources and contribute to the general health and welfare of the community. The City of Roseville Comprehensive Plan supports protection of these resources.

The use of sealers on asphalt driveways is a common practice. However, scientific studies on the use of driveway sealers have demonstrated an adverse relationship between stormwater runoff and certain health and environmental concerns.

The purpose of this ordinance is to regulate the use of sealer products within the City of Roseville, in order to protect, restore, and preserve the quality of its waters.

410.02: DEFINITIONS

Except as otherwise provided or clearly implied by context, all terms shall be given their commonly accepted definitions. For the purpose of this ordinance, the following definitions shall apply unless the context clearly indicates or requires a different meaning.

ASPHALT-BASED SEALER: A petroleum-based sealer material that is commonly used on driveways, parking lots, and other surfaces and which does not contain coal tar.

COAL TAR SEALER: A coal tar based sealer is a black liquid containing coal tar pitch that is sprayed or painted on asphalt parking lots and driveways.

COAL TAR: A byproduct of the process used to refine coal for the steel industry.

CITY: City of Roseville.

MPCA: Minnesota Pollution Control Agency

PAHs: Polycyclic Aromatic Hydrocarbons. A group of organic chemicals formed during the incomplete burning of coal, oil, gas, or other organic substances. Present in coal tar and believed harmful to humans, fish, and other aquatic life.

410.03: PROHIBITIONS

- A. No person shall apply any coal tar-based sealer to any driveway, parking lot, or other surface within the City of Roseville.
- B. No person shall contract with any commercial sealer product applicator, residential or commercial developer, or any other person for the application of any coal tar-based sealer to any driveway, parking lot, or other surface within the City.
- C. No commercial sealer product applicator, residential or commercial developer, or other similar individual or organization shall direct any employee, independent contractor,

volunteer, or other person to apply any coal tar-based sealer to any driveway, parking lot, or other surface within the City.

- D. A person may not sell a coal tar based sealer product within the City, unless:
1. The sale is to a person who intends to use the coal tar-based sealer outside the City's planning jurisdiction; and
 2. The seller requires the purchaser to complete and sign a form provided by the City that includes:
 - a. The name, address, and phone number of the purchaser,
 - b. The date of the purchase,
 - c. The quantity of coal tar-based sealer purchased,
 - d. A statement that the coal tar-based sealer will not be used within the City of Roseville,
 - e. An affirmation by the purchaser that the information on the form is correct, and
 3. The seller retains the completed form for a period of not less than two years and allows the City to inspect or copy the form upon request.

410.04: EXEMPTION

Upon the express written approval from both the City and MPCA, a person conducting bona fide research on the effects of coal tar-based sealer products or PHAs on the environment shall be exempt from the prohibitions provided in Section 3.

410.05: ASPHALT-BASED SEALCOAT PRODUCTS

The provisions of this ordinance shall only apply to use of coal tar-based sealer in the City and shall not affect the use of asphalt-based sealer products within the City.

410.06: PENALTY

Any person convicted of violating any provision of this ordinance is guilty of a misdemeanor and shall be punished by a fine not to exceed one thousand dollars (\$1,000.00) or imprisonment for not more than ninety (90) days, or both, plus the costs of prosecution in either case.

410.07: SEVERABILITY

If any provision of this ordinance is found to be invalid for any reason by a court of competent jurisdiction, the validity of the remaining provisions shall not be affected.

(Ord. 1409, 6-13-2011)



CHAPTER 803

STORM WATER DRAINAGE

SECTION:

- 803.01: Storm Water Drainage Utility
- 803.02: Connection to Storm Sewers
- 803.03 Storm Water Illicit Discharge and Connections
- 803.04 Erosion and Sedimentation Control

803.01: STORM WATER DRAINAGE UTILITY:

- A. Establishment: The Municipal storm sewer system shall be operated as a public utility pursuant to Minnesota Statute, section 444.075, from which revenues will be derived subject to the provisions of this Section and Minnesota statutes. The storm water drainage utility will be part of the Public Works Department and under the administration of the Public Works Director.
- B. Definition: "Residential equivalent factor, (REF)" - One REF is defined as the ratio of the average volume of runoff generated by one acre of a given land use to the average volume of runoff generated by one acre of typical single-family residential land during a standard one year rainfall event.
- C. Fees: Storm water drainage fees for parcels of land shall be determined by multiplying the REF for a parcel's land use by the parcel's acreage and then multiplying the REF for a parcel's land use by the parcel's acreage and then multiplying the resulting product by the storm water drainage rate. The REF values for various land uses are as follows¹: For the purpose of calculating storm water drainage fees, all developed one-family and duplex parcels shall be considered to have an acreage of one-third (1/3) acre. The storm water drainage rate used to calculate the actual charge per property shall be established by City Council Resolution.
- D. Credits: The City Council may adopt policies recommended by the Public Works Director, by resolution, for adjustment of the storm water drainage fee for parcels based upon hydrologic data to be supplied by property owners, which data demonstrates a hydrologic response substantially different from the standards. Such adjustments of storm water drainage fees shall not be made retroactively.
- E. Exemptions: The following land uses are exempt from storm water drainage fees:
 - 1. Public rights of way.

¹ CLASSIFICATION	LAND USES	REF
1	Cemeteries golf courses	0.25
2	Parks with parking facilities	0.75
3	Single-family and duplex residential	1.00
4	Public & private school, community center	1.25
5	Multiple-family residential, churches & government buildings	2.50
6	Commercial, industrial, warehouse	5.00
7	Improved vacant	As Assigned

2. Vacant, unimproved land with ground cover.
- F. Payment of Fee: Statements for storm water drainage fee shall be computed every three months and invoiced by the Finance Officer for each account on or about the fifth day of the month following the quarter. Such statement shall be due on or before the last day of the month in which the statement is mailed. Any prepayment or overpayment of charges shall be retained by the City and applied against subsequent quarterly fees.
- G. Recalculation of Fee: If a property owner or person responsible for paying the storm water drainage fee questions the correctness of an invoice for such charge, such person may have the determination of the charge recomputed by written request to the Public Works Director made within twelve months of mailing of the invoice in question by the City.
- H. Penalty for Late Payment: Each quarterly billing for storm water drainage fees not paid when due shall incur a penalty charge of ten percent of the amount past due.
- I. Certification of Past Due Fees on Taxes: Any past due storm water drainage fees, in excess of 90 days past due, may be certified to the County Auditor for collection with real estate taxes, pursuant to Minnesota Statute, section 444.075, subdivision 3. In addition, the City shall also have the right to bring a civil action or to take other legal remedies to collect unpaid fees. (Ord. 937, 1-9-84; amd. 1995 Code) (Ord. 1383, 6-08-2009)

803.02: CONNECTION TO STORM SEWERS:

- A. Permit Required: No person shall connect any drain to a storm sewer of the City without first obtaining a permit to do so.
- B. Granting of Permits: The Public Works Director shall grant permits only to applicants who are licensed by the City.
- C. Hook Up Permit Fee: The fee for a permit to hook up to a City storm sewer shall be set by City Council resolution. (Ord. 377, 9-10-62; amd. 1995 Code)
- D. Additional Fees: Before any hook up permit shall be issued, the following conditions shall be complied with:
 1. No permit shall be issued to connect with any storm sewer system to the City directly or indirectly from any lot or tract of land unless the Public Works Director shall have certified:
 - a. That such lot or tract of land has been assessed for the cost of construction or the storm sewer main or line with which the connection is made, or
 - b. If no assessment has been levied for such construction cost, the proceedings for levying such assessment have been or will be completed in due course, or
 - c. If no assessment has been levied and no assessment proceedings will be completed in due course, that a sum equal to the portion of cost of constructing said storm sewer main which would be assessable against said lot or tract has been paid to the City, or
 2. If no such certificate can be issued by the Public Works Director no permit to connect to any storm sewer main shall be issued unless the applicant shall pay an additional connection fee which shall be equal to the portion of the cost of construction of the said storm sewer main which would be assessable against said lot or tract to be served by such connection. Said assessable cost is to be determined by the Public Works Director upon the same basis as any assessment previously levied against other property for the said main, including interest at a rate equal to the interest rate of the original assessment from the date of the original assessment and continuing for a period of 20 years or the amount of years the assessment was payable, whichever is less. Interest may be waived or decreased, when it is determined by the Public Works Director that the improvement was not subject to

utilization until a later date. If no such assessment has been levied, the assessable cost will be determined upon the basis of the uniform charge which may have been or which shall be charged for similar storm sewer improvements, determined on the basis of the total assessable cost of said main or line, allocated on a frontage basis, acreage basis, or both.

3. No building permit shall be issued for any building where the affected lot or parcel of land has been benefited by an assessed storm sewer improvement unless the provisions of this subsection have been complied with. (Ord. 745, 12-30-74; amd. 1995 Code)

803.03: STORM WATER ILLICIT DISCHARGE AND CONNECTIONS:

- A. Purpose: The purpose of the ordinance is to promote, preserve and enhance the natural resources within the City and protect them from adverse effects caused by non-storm water discharge by regulating discharges that would have an adverse and potentially irreversible impact on water quality and environmentally sensitive land. This ordinance will provide for the health, safety, and general welfare of the citizens of the City of Roseville through the regulation of non-storm water discharges to the storm drainage system to the maximum extent practicable as required by federal and state law. This ordinance establishes methods for controlling the introduction of pollutants into the municipal separate storm sewer system (MS4) in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) permit process. The objectives of this ordinance are:
 1. To regulate the contribution of pollutants to the municipal separate storm sewer system (MS4) by storm water discharges by any person.
 2. To prohibit Illicit Connections and Discharges to the municipal separate storm sewer system.
 3. To establish legal authority to carry out all inspection, surveillance and monitoring procedures necessary to ensure compliance with this ordinance.
- B. Definitions: For the purposes of this ordinance, the following terms, phrases, words and their derivatives shall have the meaning stated below.
 1. BEST MANAGEMENT PRACTICE (BMP): Erosion and sediment control and water quality management practices that are the most effective and practicable means of controlling, preventing, and minimizing the degradation of surface water, including construction-phasing, minimizing the length of time soil areas are exposed, prohibitions, and other management practices published by state or designated area-wide planning agencies.
 - a. Non-structural BMP: Practices that focus on preserving open space, protecting natural systems, and incorporating existing landscape features such as wetlands and stream corridors to manage storm water at its source. Other practices include clustering and concentrating development, minimizing disturbed areas, and reducing the size of impervious areas.
 - b. Structural BMP: a physical device that is typically designed and constructed to trap or filter pollutants from runoff, or reduce runoff velocities.
 2. COMMERCIAL: Activity conducted in connection with a business.
 3. DISCHARGE: Adding, introducing, releasing, leaking, spilling, casting, throwing, or emitting any pollutant, or placing any pollutant in a location where it is likely to pollute waters of the state.
 4. EQUIPMENT: Implements used in an operation or activity. Examples include, but are not limited to; lawn mowers, weed whips, shovels, wheelbarrows and construction equipment.

5. **EROSION:** any process that wears away the surface of the land by the action of water, wind, ice, or gravity. Erosion can be accelerated by the activities of man and nature.
6. **GROUNDWATER:** Water contained below the surface of the earth in the saturated zone including, without limitation, all waters whether under conned, unconfined, or perched conditions, in near surface unconsolidated sediment or regolith, or in rock formations deeper underground.
7. **ILLEGAL/ ILLICIT DISCHARGE:** Any direct or indirect non-storm water discharge to the storm drainage system, except as exempted in this chapter.
8. **ILLICIT CONNECTION:** Either of the following:
 - a. Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system (including any non-storm water discharge) including wastewater, process wastewater, and wash water and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by the City; or,
 - b. Any drain or conveyance connected from a residential, commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by the City.
9. **IMPERVIOUS SURFACE:** A hard surface area which either prevents or retards the entry of water into the ground. Common impervious surfaces include, but are not limited to, roof tops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads, packed earthen materials, or other surfaces which similarly impede the natural infiltration of surface and storm water runoff.
10. **MAXIMUM EXTENT PRACTICABLE (MEP):** A standard for water quality that applies to all MS4 operators regulated under the NPDES program. Since no precise definition of MEP exists, it allows for maximum flexibility on the part of MS4 operators as they develop and implement their programs to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of pollutants.
11. **MECHANICAL CLEANING TECHNIQUES:** Arranging the collision between the substance being removed and some object. Mechanical cleaning techniques include: sweeping, shoveling, or blowing. This does NOT include using water to clean the surface.
12. **MPCA:** The Minnesota Pollution Control Agency.
13. **MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4):** The system of conveyances (including sidewalks, roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, channels, or storm drains) owned and operated by the City and designed or used for collecting or conveying storm water, and which is not used for collecting or conveying sewage.
14. **NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES):** The national program for issuing, modifying, revoking, and reissuing, terminating, monitoring, and enforcing permits, and imposing and enforcing pretreatment requirements under sections 307, 318, 402, and 405 of the Clean Water Act, United States Code, title 33, sections 1317, 1328, 1342, and 1345.
15. **PERSON:** Any individual, firm, corporation, partnership, franchise, association or governmental entity.
16. **PERVIOUS SURFACE:** Pervious areas permit water to enter the ground by virtue of their porous nature or by large voids in the material. Commonly pervious areas

have vegetation growing on them.

17. **POLLUTANT:** Any substance which, when discharged has potential to or does any of the following:
 - a. Interferes with state designated water uses;
 - b. Obstructs or causes damage to waters of the state;
 - c. Changes water color, odor, or usability as a drinking water source through causes not attributable to natural stream processes affecting surface water or subsurface processes affecting groundwater;
 - d. Adds an unnatural surface film on the water;
 - e. Adversely changes other chemical, biological, thermal, or physical condition, in any surface water or stream channel;
 - f. Degrades the quality of groundwater; or
 - g. Harms human life, aquatic life, or terrestrial plant and wildlife; A Pollutant includes but is not limited to dredged soil, solid waste, incinerator residue, garbage, wastewater sludge, chemical waste, biological materials, radioactive materials, rock, sand, dust, industrial waste, sediment, nutrients, toxic substance, pesticide, herbicide, trace metal, automotive fluid, petroleum-based substance, wastewater, and oxygen-demanding material.
18. **POLLUTE:** To discharge pollutants into waters of the state.
19. **POLLUTION:** The direct or indirect distribution of pollutants into waters of the state.
20. **PREMISES:** Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips
21. **SANITARY SEWER:** a pipe, conduit, or sewer owned, operated, and maintained by the City and which is designated by the Public Works Director as one dedicated to the exclusive purpose of carrying sanitary wastewater to the exclusion of other matter
22. **STATE DESIGNATED WATER USES:** Uses specified in state water quality standards.
23. **STORM DRAINAGE SYSTEM:** Publicly-owned facilities by which storm water is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.
24. **STORM WATER:** Any surface flow, runoff, or drainage consisting entirely of water from any form of natural precipitation and resulting from such precipitation.
25. **SURFACE WATERS** means all waters of the state other than ground waters, which include ponds, lakes, rivers, streams, wetlands, ditches, , and public drainage systems except those designed and used to collect, convey, or dispose of sanitary sewage.
26. **STORM WATER POLLUTION PREVENTION PLAN (SWPPP):** A document which describes the Best Management Practices and activities to be implemented by a person or business to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharges to Storm water, Storm water Conveyance Systems, and/or Receiving Waters to the Maximum Extent Practicable.
27. **VEHICLE:** Any "motor vehicle" as defined in Minnesota Statutes. Also includes watercraft, trailers and bicycles.
28. **WATERCOURSE:** A natural channel for water; also, a canal for the conveyance of water, a running stream of water having a bed and banks; the easement one may have in the flowing of such a stream in its accustomed course. A water course may be dry sometimes.

29. WATERS OF THE STATE: All streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state or any portion thereof.
 30. WASTEWATER: Any water or other liquid, other than uncontaminated storm water, discharged from a facility or the by-product of washing equipment or vehicles
- C. Applicability: This ordinance shall apply to all water entering the storm drain system generated on any developed and undeveloped lands unless explicitly exempted by the City Council.
- D. Administration: The Public Works Director is the principal City official responsible for the administration, implementation, and enforcement of the provisions of this ordinance. The Director may delegate any or all of the duties hereunder
- E. Exemptions: No person shall cause any illicit discharge to enter the storm sewer system or any surface water unless such discharge:
1. Consists of non-storm water that is authorized by an NPDES point source permit obtained from the MPCA;
 2. Is associated with fire fighting activities or other activities necessary to protect public health and safety;
 3. Is one of the following exempt discharges: water line flushing or other potable water sources, landscape irrigation or lawn watering, diverted stream flows, rising groundwater, groundwater infiltration to storm drains, uncontaminated pumped groundwater, foundation or footing drains (not including active groundwater dewatering systems), crawl space pumps, air conditioning condensation, springs, non-commercial washing of vehicles, natural riparian habitat or wetland flows, dechlorinated swimming pools and any other water source not containing pollutants;
 4. Consists of dye testing discharge, as long as the Public Works Director is provided a verbal notification prior to the time of the test.
- F. Illegal Disposal and Dumping
1. No person shall throw, deposit, place, leave, maintain, or keep any substance upon any street, alley, sidewalk, storm drain, inlet, catch basin, or other drainage structure, business place, or upon any public or private land, so that the same might be or become a pollutant, unless the substance is in containers, recycling bags, or any other lawfully established waste disposal device.
 2. No person shall intentionally dispose of grass, leaves, dirt, or landscape material into a water resource, buffer, street, road, alley, catch basin, culvert, curb, gutter, inlet, ditch, natural watercourse, flood control channel, canal, storm drain or any fabricated natural conveyance.
- G. Illicit Discharges and Connections
1. No person shall use any illicit connection to intentionally convey non-storm water to the City's storm sewer system.
 2. The construction, use, maintenance or continued existence of illicit connections to the storm sewer system is prohibited. This prohibition expressly includes, without limitation, illicit connections made in the past regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.
 3. A person is considered to be in violation of this ordinance if the person connects a line conveying wastewater to the storm sewer system, or allows such a connection to continue.
- H. General Provisions: All owners or occupants of property shall comply with the

following general requirements:

1. No person shall leave, store, deposit, discharge, dump, or otherwise expose any chemical or septic waste in an area where discharge to streets or storm sewer system may occur. This section shall apply to both actual and potential discharges.
 - a. Private sanitary sewer connections and appurtenances shall be maintained to prevent failure, which has the potential to pollute surface water.
 - b. Recreational vehicle sewage shall be disposed to a proper sanitary waste facility. Waste shall not be discharged in an area where drainage to streets or storm sewer systems may occur.
 - c. For pools, the pool's water should be tested before draining to ensure that PH levels are neutral and chlorine levels are not detectable. Pool water should be discharged over a vegetated area before draining into the storm sewer system. Unsealed receptacles containing chemicals or other hazardous materials shall not be stored in areas susceptible to runoff.
2. The washing down of commercial equipment and vehicles shall be conducted in a manner so as to not directly discharge wastewater where drainage to streets or storm sewer system may occur.
3. Removal of pollutants such as grass, leaves, dirt and landscape material from impervious surfaces shall be completed to the maximum extent practicable using mechanical cleaning techniques.
4. Mobile washing companies (carpet cleaning, mobile vehicle washing, etc) shall dispose of wastewater to the sanitary sewer. Wastewater shall not be discharged where drainage to streets or storm sewer system may occur.
5. Storage of materials, machinery and equipment shall comply with the following requirements:
 - a. Objects, such as equipment or vehicle parts containing grease, oil or other hazardous substances, and unsealed receptacles containing chemicals or other hazardous materials shall not be stored in areas susceptible to runoff.
 - b. Any machinery or equipment that is to be repaired or maintained in areas susceptible to runoff shall be placed in a confined area to contain leaks, spills, or discharges.
6. Debris and residue shall be removed as follows:
 - a. All vehicle parking lots and private streets shall be swept at least once a year in the spring to remove debris. Such debris shall be collected and disposed of according to state and federal laws governing solid waste.
 - b. Fuel and chemical residue or other types of potentially harmful material, such as animal waste, garbage or batteries shall be contained immediately, removed as soon as possible and disposed of according to state and federal laws governing solid waste.
- I. Industrial or Construction Activity Discharges. Any person subject to an industrial activity NPDES storm water discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a manner acceptable to the Public Works Director prior to the allowing of discharges to the storm sewer system. Any person responsible for a property or premise, who is, or may be, the source of an illicit discharge, may be required to implement, at said person's expense, additional structural and non-structural BMPs to prevent the further discharge of pollutants to the storm sewer system. These BMPs shall be part of a storm water pollution prevention plan (SWPPP) as necessary for compliance with requirements of the NPDES permit.
- J. Access to Facilities
 1. When the City has determined that there is a danger to the health, safety or welfare

of the public, city representatives shall be permitted to enter and inspect facilities subject to regulation under this ordinance to determine compliance with this ordinance. If a discharger has security measures in force which require proper identification and clearance before entry into its premises, the discharger shall make the necessary arrangements to allow access to city representatives.

2. In lieu of an inspection by a City representative, the property owner shall furnish a certificate from a licensed plumber, in a form acceptable to the City, certifying that the property has not discharged prohibited material into the municipal storm sewer system. Failure to provide such certificate of compliance shall make the property owner immediately subject to the suspension of storm sewer access as provided for in section M of this section until the property is inspected and/or compliance is met, including any penalties and remedies as set forth in section N below.
 3. Unreasonable delays in allowing city representatives access to a permitted facility is a violation of a storm water discharge permit and of this ordinance.
 4. The City may seek issuance of a search warrant for the following reasons:
 - a. If city representatives are refused access to any part of the premises from which storm water is discharged, and there is probable cause to believe that there may be a violation of this ordinance; or
 - b. there is a need to inspect and/or sample as part of a routine inspection and sampling program designed to verify compliance with this ordinance or any order issued hereunder; or
 - c. to protect the overall public health, safety, and welfare of the community.
- K. Watercourse Protection. Every person owning property through which a watercourse passes or is directly adjacent to a watercourse, shall keep and maintain that part of the watercourse free of trash, debris, and other obstacles that would pollute, contaminate, or retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse.
- L. Notification of Spills. Notwithstanding other requirements of law, as soon as any person has information of release of materials which result or may result in illegal discharges of pollutants into the storm sewer system, or water of the state, said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release according to state and federal laws.
- M. Suspension of Storm Sewer System Access
1. Suspension due to illicit discharges in emergency situation: The City may, without prior notice, suspend MS4 discharge access to a person when such suspension is necessary to stop an actual or threatened discharge that presents or may present imminent and substantial danger to the environment, to the health or welfare of persons, to the storm sewer or waters of the state. If the violator fails to comply with a suspension order issued in an emergency, the city may take such steps as deemed necessary to prevent or minimize damage to the storm sewer system or the waters of the state, or to minimize danger to persons.
 2. Suspension due to the detection of illicit discharge: All persons discharging to the MS4 in violation of this ordinance may have their access terminated if such termination serves to abate or reduce an illicit discharge. It is a violation of this ordinance to reinstate access to premises that have been terminated pursuant to this section without the prior approval of the City.
- N. Enforcement
1. Notice of Violation: A violation of this ordinance is a Public Nuisance. When it has been determined that a person has violated a prohibition or failed to meet a

requirement of this Ordinance, the Public Works Director may order compliance by written notice of violation to the person(s) responsible for the violation. Such notice may require without limitation:

- a. The performance of monitoring, analysis, and reporting;
- b. The elimination of illicit connections or discharges;
- c. That violating discharges, practices, or operations shall cease and desist;
- d. The abatement or remediation of storm water pollution or contamination hazards and the restoration of any affected property;
- e. Payment of a fine to cover administrative and remediation costs;
- f. The implementation of source control or treatment BMPs;
- g. The development of a corrective action plan to prevent repeat discharges; and/ or
- h. Any other requirement deemed necessary.

If abatement of a violation and/ or restoration of affected property is required, the notice shall set forth a deadline within which such remediation or restoration must be completed. Said notice shall further advise that, should the violator fail to remediate or restore within the established deadline, the work will be done by a designated governmental agency or a contractor and the expense thereof shall be charged to the violator.

2. **Appeal of Notice of Violation:** Any person receiving a Notice of Violation may appeal the determination of the Public Works Director. The notice of appeal must be received within 7 days from the date of the Notice of Violation. Hearing on the appeal before the City Manager or his/her designee shall take place within 15 days from the date of receipt of the notice of appeal. The decision of the City Manager or his/ her designee shall be final.
3. **Enforcement Measures after Appeal:** If the violation has not been corrected pursuant to the requirements set forth in the Notice of Violation, or, in the event of an appeal, within 7 days of the decision of the City Manager upholding the decision of the Public Works Director, then city representatives shall have the right to enter upon the subject private property and are authorized to take any and all measures necessary to abate the violation and/or restore the property. It shall be unlawful for any person, owner, agent or person in possession of any premises to refuse to allow city representatives to enter upon the premises for the purposes set forth above.
4. **Cost of Abatement of the Violation:** Within 15 days after abatement of the violation, the person(s) responsible for the violation will be notified of the cost of abatement, including administrative costs. The person(s) given such notice may file a written protest objecting to the amount of the costs within 7 days. If the amount due is not paid within a timely manner as determined by the decision of the City Manager or by the expiration of the time in which to file an appeal, the amount due shall constitute a lien upon, and the City shall have the right to assess such cost against the property owned by such violator(s) pursuant to Minnesota Statute § 429.101.
5. **Injunctive Relief:** It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this Ordinance. If a person has violated or continues to violate the provisions of this ordinance, the City may petition for a preliminary or permanent injunction restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation.
6. **Compensatory Action:** In lieu of enforcement proceedings, penalties, and remedies authorized by this Ordinance, the City may impose upon a violator alternative compensatory action such as storm drain stenciling, attendance at compliance workshops, creek cleanup, etc.
7. **Violations Deemed a Public Nuisance:** In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this Ordinance is a threat to public health, safety, and welfare, and

is declared and deemed a nuisance, and may be summarily abated or restored at the violator's expense, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken.

8. Criminal Prosecution: A violation of this ordinance is a misdemeanor.
9. Costs and Expenses: The City may recover all attorney's fees, court costs, staff expenses, clean-up costs, and any other expenses associated with enforcement of this ordinance including, but not limited to, sampling and monitoring expenses.
10. Remedies Not Exclusive: The remedies listed in this ordinance are not exclusive of any other remedies available under any applicable federal, state or local law and it is within the discretion of the City to seek cumulative remedies.

(Ord. 1388, 2-22-2010)

803.04: EROSION AND SEDIMENTATION CONTROL:

- A. Purpose: The purpose of this article is to control or eliminate soil erosion and sedimentation resulting from construction activity within the City. This article establishes standards and specifications for conservation practices and planning activities that minimize soil erosion and sedimentation.
- B. Scope: Except as exempted by the definition of the term "land disturbance activity" in Section 803.04 C7, any person, entity, state agency, or political subdivision thereof proposing land disturbance activity within the City shall apply to the City for the approval of the erosion and sediment control plan. No land shall be disturbed until the plan is approved by the City and conforms to the standards set forth in this article.
- C. Definitions: The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:
 1. Best Management Practice (BMP): Erosion and sediment control and water quality management practices that are the most effective and practicable means of controlling, preventing, and minimizing the degradation of surface water, including construction-phasing, minimizing the length of time soil areas are exposed, prohibitions, and other management practices published by state or designated area-wide planning agencies.
 2. Certificate of Completion: the certificate issued after the final inspection of the site has been completed, temporary erosion control has been removed and the site has been fully restored.
 3. City of Roseville Erosion Control Specifications: practices described in, but not limited to, the following manuals:
 - Minnesota Stormwater Manual
 - Minnesota Pollution Control Agency's "Protecting Water Quality in Urban Areas" handbook
 - Ramsey County Erosion and Sediment Control Handbook
 4. Erosion: any process that wears away the surface of the land by the action of water, wind, ice, or gravity. Erosion can be accelerated by the activities of man and nature.
 5. Erosion and sediment control plan: a document containing the requirements of Section 803.04 D that, when implemented, will prevent or minimize soil erosion on a parcel of land and off-site sediment damages.
 6. Erosion and sediment control practice specifications and erosion and sediment control practices: the management procedures, techniques, and methods to control soil erosion and sedimentation as officially adopted by the City.
 7. Land disturbance activity: land change greater than 10,000 square feet, or land change on a parcel of land located directly adjacent to a water resource or located

within the shoreland overlay district, that may result in soil erosion from water or wind and the movement of sediments into or upon waters or lands of the city, including clearing, grading, excavating, transporting and filling of land. Land disturbance activity does not mean the following:

- a. Minor land disturbance activities such as home gardens and an individual's home landscaping, repairs, and maintenance work.
 - b. Tilling, planting, or harvesting or agricultural, horticultural, or silvicultural crops.
 - c. Installation of fence, sign, telephone, and electric poles and other kinds of posts or poles.
 - d. Emergency work to protect life, limb, or property and emergency repairs. However, if the land disturbance activity would have required an approved erosion and sediment control plan except for the emergency, the land area disturbed shall be shaped and stabilized in accordance with the requirement of the local plan-approving authority or the city when applicable.
8. Permittee: a person, entity, state agency, corporation, partnership, or political subdivision thereof engaged in a land disturbance activity.
 9. Sediment: solid mineral or organic material that, in suspension, is being transported or has been moved from its original site by air, water, gravity, or ice, and has been deposited at another location.
 10. Sedimentation: the process or action of depositing sediment that is determined to have been caused by erosion.
 11. Water Resource: any stream, channel, wetland, storm pond, or lake within the City.
- D. Erosion and Sediment Control Plan:
1. Required: Every Permittee for a building permit, a subdivision approval, or a permit to allow land disturbance activities must submit an erosion and sediment control plan to the City Engineer. No building permit, subdivision approval, or permit to allow land disturbance activities shall be issued and no earth disturbing activity shall commence until approval of the erosion and sediment control plan by the City.
Projects coordinated by Ramsey County or Mn/DOT do not require a permit; however, the City must be notified of the project and be provided a copy of the erosion and sediment control plan, as well as an estimated schedule for commencement and completion. The City will notify the designated contact if erosion control measures should fail or require maintenance with the expectation that the deficiencies will be corrected.
If no permit has been obtained, a stop work order shall be issued on the construction and a fine shall be issued in an amount equal to twice the required permit fee. A completed erosion and sediment control plan and permit application shall be submitted before construction will be allowed to resume.
Obtaining a permit does not exempt the permittee from obtaining permits required by other government regulatory agencies.
 2. Criteria addressed: The erosion and sediment control plan shall address the following criteria:
 - a. Conform to the natural limitations presented by topography and soil so as to create the least potential for soil erosion.
 - b. Stabilize all exposed soils and soil stockpiles
 - c. Establish permanent vegetation
 - d. Prevent sediment damage to adjacent properties and other designated areas
 - e. Schedule of erosion and sediment control practices
 - f. Use temporary sedimentation basins

- g. Stabilization of steep slopes
 - h. Control the storm water leaving the site
 - i. Stabilize all waterways and outlets
 - j. Protect storm sewers from the entrance of sediment, debris and trash
 - k. Control waste, such as discarded building materials, concrete truck washout, chemicals, litter and sanitary waste that may adversely impact water quality
 - l. When working in or crossing water resources, take precautions to contain sediment.
 - m. Restabilize utility construction areas as soon as possible
 - n. Protect paved roads from sediment and mud brought in from access routes
 - o. Dispose of temporary erosion and sediment control measures
 - p. Maintain all temporary and permanent erosion and sediment control practices
 - q. Removal of sediment from streets at the end of each day
3. Contents of Plan: The erosion and sediment control plan shall include the following:
- a. Contact information for the Permittee
 - b. Project description: the nature and purpose of the land disturbance activity and the amount of grading involved
 - c. Phasing of construction: the nature and purpose of the land disturbance activity and the amount of grading, utilities, and building construction
 - d. Existing and proposed site conditions: existing and proposed topography, vegetation, and drainage
 - e. Adjacent areas, neighboring streams, lakes, wetlands, residential areas, roads, etc., which might be affected by the land disturbance activity
 - f. Soils: soil names, mapping units, erodibility
 - g. Critical erosion areas: areas on the site that have potential for serious erosion problems
 - h. Erosion and sediment control measures: methods to be used to control erosion and sedimentation on the site, both during and after the construction process
 - i. Temporary and Permanent stabilization: how the site will be stabilized during and after construction is completed, including specifications
 - j. Storm water management: how storm runoff will be managed, including methods to be used if the development will result in increased peak rates or volume of runoff
 - k. Maintenance: schedule of regular inspections and repair of erosion and sediment control structures
 - l. Calculations: any that were made for the design of such items as sediment basins, diversions, waterways, and other applicable practices

E. Plan Review:

- 1. General: The City appoints the City Engineer to review the erosion and sediment control plan to ensure compliance with the City of Roseville Erosion and Sediment Control Standards.
- 2. Permit required: If the City determines that the erosion and sediment control plan meets the requirements of this article, the City shall issue a permit, valid for a specified period of time that authorizes the land disturbance activity contingent on the implementation and completion of the erosion and sediment control plan.
- 3. Denial: If the City determines that the erosion and sediment control plan does not meet the requirements of this article, the City shall not issue a permit for the land disturbance activity. The erosion and sediment control plan must be resubmitted for

approval before the land disturbance activity begins. No land use and building permits may be issued until the Permittee has an approved erosion and sediment control plan.

4. Permit suspension: If the City determines that the approved plan is not being implemented according to the schedule or the control measures are not being properly maintained, all land use and building permits must be suspended and stop work order issued until the Permittee has fully implemented and maintained the control measures identified in the approved erosion and sediment control plan.

F. Plan Implementation And Maintenance:

All storm water pollution controls noted on the approved erosion and sediment control plan shall be installed before commencing the land disturbance activity, and shall not be removed without City approval or issuance of a Certificate of Completion.

The Permittee shall be responsible for proper operation and maintenance of all stormwater pollution controls and soil stabilization measures in conformance with best management practices. The Permittee shall also be responsible for maintenance, clean-up and all damages caused by flooding of the site or surrounding area due to in-place erosion and sediment control. The foregoing responsibilities shall continue until a Certificate of Completion is issued to the Permittee by the City for the land disturbance activity.

G. Modification of Plan:

An approved erosion and sediment control plan may be modified on submission of an application for modification to the City and subsequent approval by the City Engineer. In reviewing such application, the City Engineer may require additional reports and data.

H. Escrow Requirement:

The City shall require the Permittee to escrow a sum of money sufficient to ensure the inspection, installation, maintenance, and completion of the erosion and sediment control plan and practices. Escrow amounts shall be set from time to time by the City Council. Upon project completion and the issuance of a Certificate of Completion any remaining amount held in escrow shall be returned to the Permittee.

I. Enforcement:

If the City determines the erosion and sedimentation control is not being implemented or maintained according to the approved plan, the Permittee will be notified and provided with a list of corrective work to be performed. The corrective work shall be completed by the Permittee within forty-eight (48) hours after notification by the City. Notification may be given by:

- a. Personal delivery upon the Permittee, or an officer, partner, manager or designated representative of the Permittee.
 - b. E-mail or facsimile by sending such notice to the e-mail address or facsimile number provided by the Permittee.
1. Failure to Do Corrective Work: If a Permittee fails to perform any corrective work or otherwise fails to conform to any provision of this ordinance within the time stipulated, the City may take any one or more of the following actions:
 - a. Issue a stop work order whereupon the Permittee shall cease all land disturbance activity on the site until such time as the City determines the corrective measures that are necessary to correct the conditions for which the stop work order was issued. Once the necessary corrective actions have been determined the Permittee shall perform the corrective work. All corrective work must be completed before further land disturbance activity will be allowed to resume.
 - b. Complete the corrective work using City forces or by separate contract. The issuance of a land disturbance permit constitutes a right-of-entry for the City or

its contractor to enter upon the construction site for the purpose of completing the corrective work.

- c. Impose a monetary fine in an amount equal to twice the required permit fee.
- d. Charge the Permittee for all staff time expended and costs incurred by the City to:
 - i. perform any corrective work required by the City,
 - ii. perform such inspections and reinspections of the site on which the land disturbance activity is occurring as the City deems necessary, and/or
 - iii. coordinate and communicate with the Permittee regarding any corrective work, inspections, reinspections or other remedial actions which the City deems necessary to implement as a result of the failure of the Permittee to conform to the provisions of this ordinance, and
 - iv. remedy any other failure of the Permittee to conform to provisions of this ordinance.

The cost for staff time shall be determined by multiplying the staff member's hourly rate times 1.9 times the number of hours expended, for all staff members (including administrative employees) involved in such corrective work, communications, coordination of activities, inspections, reinspections and other remedial actions. All amounts charged shall be paid by the Permittee within 30 days of the delivery by the City of a written invoice which describes such charges.

- e. Draw on the escrow amount for all staff costs incurred, and payments due to the City as a result of the exercise by the City of any remedy available to the City pursuant to this ordinance.
- f. Assess that portion of any unpaid charges which are attributable to the removal or elimination of public health or safety hazards from private property pursuant to Minnesota Statutes Section § 429.101.
- g. Pursue any other legal equitable remedy which is available to the City.

The remedies listed in this ordinance are not exclusive of any other remedies available under any applicable federal, state or local law and it is within the discretion of the City to seek cumulative remedies. (Ord. 1416, 9-26-2011)

CHAPTER 1017

SHORELAND, WETLAND AND STORM WATER MANAGEMENT

SECTION:

- 1017.01: Short Title
- 1017.02: Jurisdiction
- 1017.03: Statutory Authorization
- 1017.04: Policy; Statement of Purpose
- 1017.05: Definitions
- 1017.06: Enforcement Compliance
- 1017.07: Disclaimer
- 1017.08: Interpretation
- 1017.09: Severability
- 1017.10: Abrogation and Greater Restrictions
- 1017.11: Administration
- 1017.12: Water Management Overlay Districts
- 1017.13: Shoreland Classifications
- 1017.14: Water Management Overlay District Lot Standards
- 1017.15: Additional Lot Dimension Requirements
- 1017.16: Structure Design Standards
- 1017.17: General Design Criteria for Structures
- 1017.18: Design Criteria for Commercial, Industrial, Public and Semi-Public Uses
- 1017.19: Notifications to the Department of Natural Resources
- 1017.20: Variances
- 1017.21: Conditional Uses
- 1017.22: Nonconformities
- 1017.23: Subdivision/Platting Provisions
- 1017.24: Planned Unit Development Requirements - Repealed (Ord. 1405, 2-28-2011)
- 1017.25: Grading, Filling and Land Alteration
- 1017.26: Storm Water Management
- 1017.27: Amendment

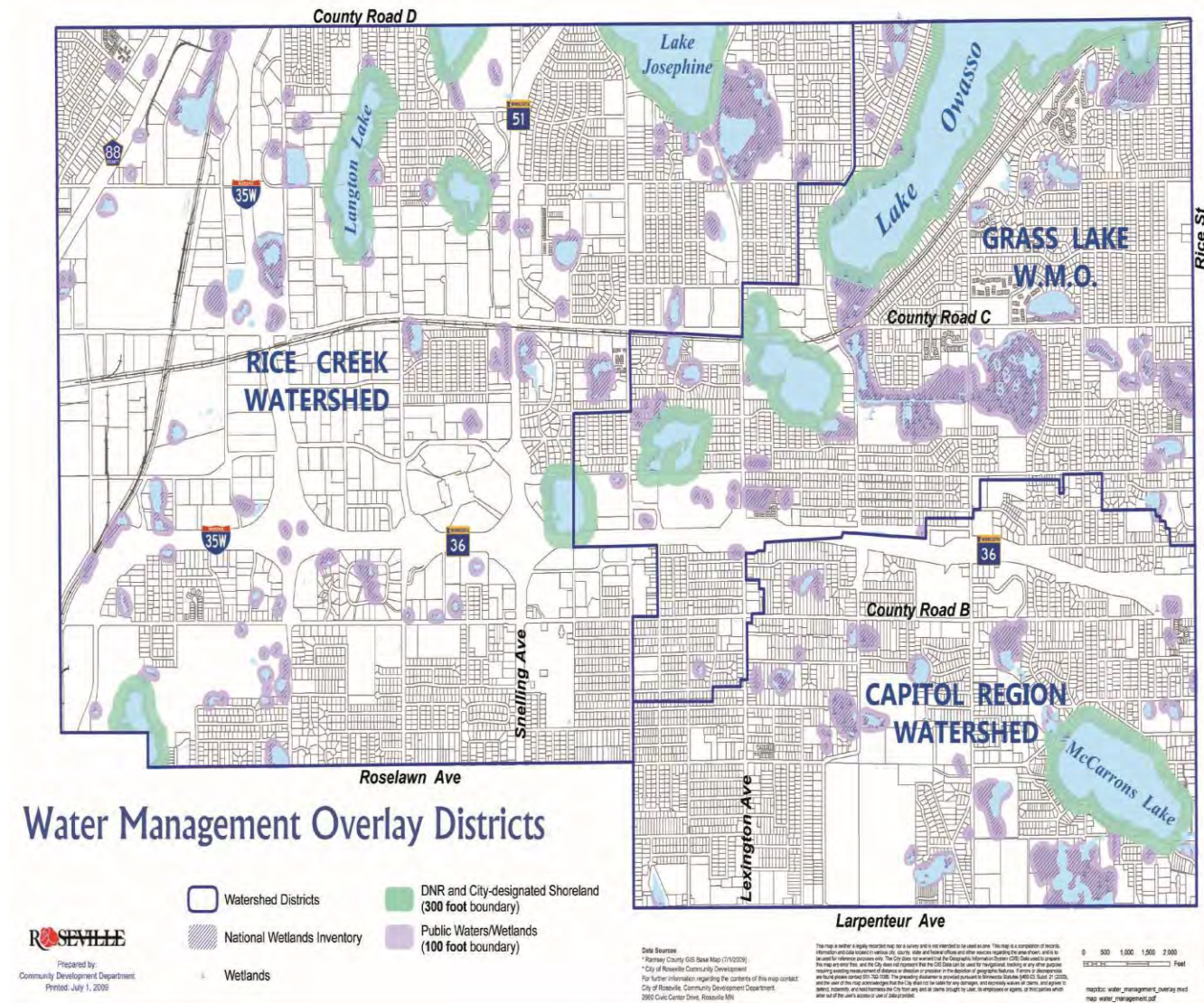
1017.01: SHORT TITLE:

The name of this Chapter shall be *THE CITY OF ROSEVILLE SHORELAND, WETLAND, AND STORM WATER MANAGEMENT ORDINANCE*. (Ord. 1156, 12-12-94)
(Ord. 1359, 1-28-2008)

1017.02: JURISDICTION:

The provisions of this Chapter shall apply to the shoreland, wetland and storm water

management overlay districts and the City in general as each section specifies. (Ord. 1156, 12-12-94) (Ord. 1359, 1-28-2008)



(Ord. 1359, 1-28-2008)

1017.03: STATUTORY AUTHORIZATION:

This Shoreland, Wetland and Storm Water Management Chapter is adopted pursuant to the authorization and policies contained in Minnesota Statutes chapters 103B, 105, 462 and 497; Minnesota Rules, parts 6120.2500 through 6120.3900; Minnesota Rules chapters 8410 and 8420. (Ord. 1156, 12-12-94) (Ord. 1359, 1-28-2008)

1017.04: POLICY; STATEMENT OF PURPOSE:

A. Waters and Wetland Policy:

1. The City's Comprehensive Land Use Plan identifies specific goals and policies related to the proper management of its shoreland, lakes, wetlands, water and soil resources.
2. The City recognizes that the uncontrolled use of shorelands, wetlands, and land alteration activities in general in the City affects the public health, safety and general welfare not only by contributing to the pollution of surface and ground waters, but also

by impairing the local tax base.

3. Land development and use impact all receiving waters, especially lakes, by contributing to their impairment through point and nonpoint pollution sources.

4. The City has adopted a Surface Water Management Plan that recognizes that its storm water system is integrated with the management of its natural lakes and wetlands.

5. Therefore, the City has determined that it is in the best interests of the public to manage its Comprehensive Plan and Surface Water Management Plan by a consolidated approach with this Chapter to avoid conflict and duplication to the maximum practical extent.

B. Statement of Purpose: to achieve the policies described in the City Comprehensive Plan, State and Federal policies and statutes, the City intends to determine, control and guide future development within and surrounding those land areas which are contiguous to designated bodies of public water and areas of "natural environmental significance" as herein defined and regulated. Specifically, this Chapter purports to:

1. Regulate the placement of sanitary and storm water disposal facilities on lots;

2. Regulate the area of a lot and the length of water frontage suitable for a building site;

3. Regulate alteration of the shorelands and wetlands of public waters;

4. Control natural environment areas of ecological value to maintain existing aquatic, vegetation and wildlife conditions to the maximum extent possible;

5. Regulate the use and subdivision of land within the corporate limits as it relates to public waters, shorelands and storm water;

6. Provide variances from the minimum standards and criteria. (Ord. 1156, 12-12-94)

(Ord. 1359, 1-28-2008)

1017.05: DEFINITIONS:

Unless specifically defined below, words or phrases used in this Chapter shall be interpreted so as to give them the same meaning as they have in common usage and to give this Chapter its most reasonable application. For the purpose of this Chapter, the words "must" and "shall" are mandatory and not permissive. All distances, unless otherwise specified, shall be measured horizontally.

As used in this Chapter, the following words and terms shall have the meanings ascribed to them in this Section:

ACCESSORY STRUCTURE OR FACILITY: Any building or improvement subordinate to a principal use which, because of the nature of its use, can reasonably be located at or greater than normal structure setbacks (such as a detached garage).

BLUFF: A topographic feature such as a hill, cliff, or embankment having the following characteristics (an area with an average slope of less than 18 percent over a distance for 50 feet or more shall not be considered part of the bluff):

A. Part or all of the feature is located in a shoreland area;

B. The slope rises at least twenty five (25) feet above the ordinary high water level of the waterbody;

C. The grade of the slope from the toe of the bluff to a point twenty five (25) feet or more above the ordinary high water level averages thirty percent (30%) or greater; and

D. The slope must drain toward the waterbody.

BLUFF IMPACT ZONE: A bluff, and, only in shoreland districts, land located thirty (30) feet landward from the top of a bluff.

BOARD OF ADJUSTMENT AND APPEAL: The Roseville City Council and Mayor.

BOATHOUSE: A structure designed and used solely for the storage of water crafts, boats, boating or water craft equipment.

BUILDING LINE: A line parallel to a lot line or the ordinary high water level at the

required setback beyond which a structure may not extend.

COMMERCIAL USE: The principal use of land or buildings for the sale, lease, rental, or trade of products, goods, and services.

COMMISSIONER: The Commissioner of the Department of Natural Resources.

CONDITIONAL USE: A "land use" or "development" as defined by City Code that may not be appropriate generally, but may be approved by the City Council with appropriate restrictions as provided by the City Code upon a finding that certain conditions as detailed in the Zoning Ordinance exist, the use or development conforms to the comprehensive land use plan of the community, and the use, through the imposition of conditions, is compatible with the existing neighborhoods.

CONDITIONAL USE PERMIT: A permit specially and individually granted in accordance with this Code, by the City Council after review thereof by the Planning Commission as a flexibility device to enable the City Council to assign dimensions or conditions to a proposed use, after consideration of the impacts on or functions of adjacent and nearby properties and the special problems that the proposed use presents.

DECK: A horizontal, unenclosed platform with or without attached railings, seats, trellises, or other features, attached or functionally related to a principal use or site and at any point extending more than three (3) feet above ground.

DOCK: A seasonal water-oriented accessory structure or walkway extended from the ordinary high water level into the bed of public waters for access to open water and anchorage of water craft.

DUPLEX, TRIPLEX AND QUAD: A dwelling structure on a single lot, having two (2), three (3), and four (4) units, respectively, being attached by common walls and each unit equipped with separate sleeping, cooking, eating, living, and sanitation facilities.

DWELLING SITE: A designated location for residential use by one or more persons using temporary or movable shelter, including camping and recreational vehicle sites.

DWELLING UNIT: Any structure or portion of a structure, or other shelter designed as short- or long-term living quarters for one or more persons, including rental or timeshare accommodations such as hotel, and resort rooms and cabins.

EXTRACTIVE USE: The use of land for surface or subsurface removal of sand, gravel, rock, industrial minerals, other nonmetallic minerals, and peat not regulated under Minnesota Statutes, sections 93.44 to 93.51.

GAZEBO: A seasonal water-oriented accessory structure used as a detached nonheated shelter. It may have a roof, floor, screen walls, but has no sewer or water service.

GUEST COTTAGE: A structure used as a dwelling unit that may contain sleeping spaces and kitchens and bathroom facilities in addition to those provided in the primary dwelling unit on a lot.

HARDSHIP: The same as that term is defined in Minnesota Statutes chapter 462 (for municipalities).

HEIGHT OF BUILDING: "Height of building" shall be as defined in the Minnesota State Building Code. It means the vertical distance between the highest adjoining ground level at the building or ten (10) feet above the lowest ground level, whichever is lower, and the highest point of a flat roof or average height of the highest gable of a pitched or hipped roof.

INDUSTRIAL USE: The use of land or buildings for the production, manufacture, warehousing, storage, or transfer of goods, products, commodities, or other wholesale items.

INTENSIVE VEGETATION CLEARING: The complete removal of trees or shrubs in a contiguous patch, strip, row, or block.

LIFT: A mechanical device used to lift a boat from the water.

LOT: A parcel of land designated by plat, metes and bounds, registered land survey,

auditors plot, or other accepted means and separated from other parcels or portions by said description for the purpose of sale, lease, or separation.

LOT WIDTH: The shortest distance between lot lines measured at the midpoint of the building line.

NONCONFORMING USE: A nonconforming use is any use or arrangement of land or structures legally existing prior to the enactment of a Code provision prohibiting such use.

NONCONFORMING USES: Any use of a building or premises which, on the effective date of this Chapter, does not, even though lawfully established, comply with all of the applicable use regulations of the zoning district in which such building or premises is located (also see definition of Substandard Use).

ORDINARY HIGH WATER LEVEL: The boundary of public waters and wetlands, and shall be an elevation delineating the highest water level which has been maintained for a sufficient period of time to leave evidence upon the landscape, commonly that point where the natural vegetation changes from predominantly aquatic to predominantly terrestrial. For watercourses, the ordinary high water level is the elevation of the top of the bank of the channel. For reservoirs and flowages, the ordinary high water level is the operating elevation of the normal summer pool.

PATIO: An inground surface of paving or wood materials, not attached to the main structure.

PORCH, SCREENED: A seasonal habitable addition to a residential structure, considered part of the structure.

PUBLIC WATERS: Any "waters" as defined in Minnesota statutes, section 103G.005, subdivisions 15 and 18.

SEMI-PUBLIC USE: The use of land by a private, nonprofit organization to provide a public service that is ordinarily open to some persons outside the regular constituency of the organization.

SENSITIVE RESOURCE MANAGEMENT: The preservation and management of areas unsuitable for development in their natural state due to constraints such as shallow soils over ground water or bedrock, highly erosive or expansive soils, steep slopes, susceptibility to flooding, or occurrence of flora or fauna in need of special protection.

SETBACK: The minimum horizontal distance between a structure, sewage treatment system, or other facility and an ordinary high water level, sewage treatment system, top of a bluff, road, highway, property line, or other facility.

SEWER SYSTEM: The combination of public and private pipelines or conduits, pumping stations, and force main, and all other construction, devices, appliances, or appurtenances used for conducting sewage or industrial waste or other wastes to a point of ultimate disposal in a public sewage treatment facility.

SHORE IMPACT ZONE: Land located between the ordinary high water level of public water and a line parallel to it at a setback of fifty percent (50%) of the structure setback.

SHORELAND: Land located within 1,000 feet from the ordinary high water level of the lakes classified in section 1017.13 of this chapter. The limits of the shorelands may be reduced whenever the waters involved are bounded by topographic divides which extend landward from the waters for lesser distances and when approved by the MnDNR commissioner. (Ord. 1359, 1-28-2008)

SHORELAND MANAGEMENT DISTRICT: Land located within three hundred (300) feet from the ordinary high water level; or the first tier of riparian lots or the first tier of lots beyond a public street when the street is adjacent to a public water body, whichever is greater, of certain public waters as established by the City Council as established by this code. (Ord. 1405, 2-28-2011)

SIGNIFICANT HISTORIC SITE: Any archaeological site, standing structure, or other

property that meets the criteria for eligibility to the National Register of Historic Places, is listed in the State Register of Historic Sites, or is determined to be an unplatted cemetery that falls under the provisions of Minnesota statutes, section 307.08. An historic site meets these criteria if it is presently listed on either register or if it is determined to meet the qualifications for listing after review by the Minnesota state archaeologist or the director of the Minnesota Historical Society. All unplatted cemeteries are automatically considered to be significant historic sites.

STEEP SLOPE: Land where agricultural activity or development is either not recommended or described as poorly suited due to slope steepness and the site's soil characteristics, as mapped and described in available county soil surveys or other technical reports, unless appropriate design and construction techniques and farming practices are used in accordance with the provisions of this chapter. Where specific information is not available, steep slopes are lands having average slopes over twelve percent (12%), as measured over horizontal distances of fifty (50) feet or more, that are not bluffs.

STORM WATER POND: A manmade pond capable of holding water seasonally or permanently, the purpose of which is to collect runoff, nutrients, and sediment prior to releasing water into wetlands and natural water bodies.

STRUCTURE: Any building or appurtenance, including attached or detached decks and fences. "Structure" does not include aerial or underground utility lines, such as sewer, electric, telephone, telegraph, gas lines, towers, poles, seasonal docks, and other supporting facilities such as at grade driveways and patios.

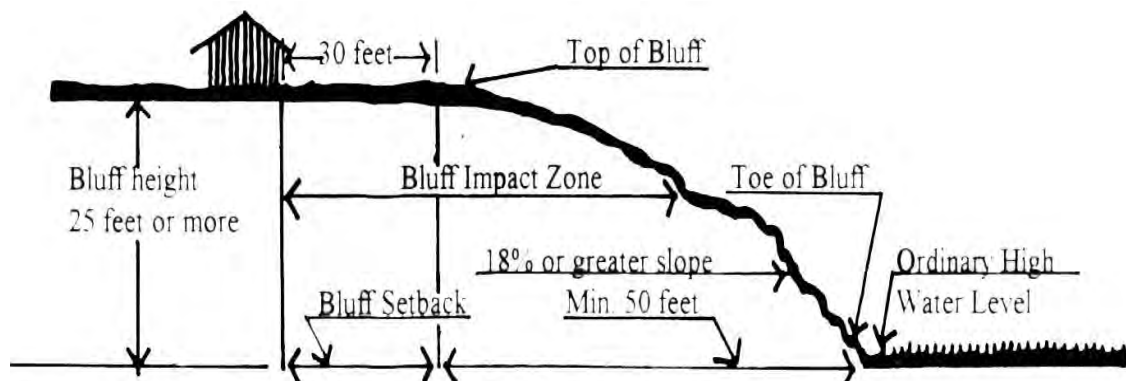
SUBDIVISION: Land that is divided for the purpose of sale, rent, or lease. (Ord. 1405, 2-28-2011)

SUBSTANDARD USE: Any use of shorelands existing prior to the date of enactment of any city ordinance which is permitted within the applicable zoning district, but does not meet the minimum lot area and length of water frontage, structure setbacks, or other dimensional standards of the ordinance.

SURFACE WATER ORIENTED COMMERCIAL USE: The use of land for commercial purposes, where access to and use of surface water feature is an integral part of the normal conductance of business. Marinas, resorts, and restaurants with transient docking facilities are examples of such use.

TOE OF THE BLUFF: The lower point of a fifty (50) foot segment with an average slope exceeding eighteen percent (18%) located in bluff impact zone. See illustration following definition of Top of The Bluff.

TOP OF THE BLUFF: The higher point of a fifty (50) foot segment with an average slope exceeding eighteen percent (18%) located in bluff impact zone. See illustration below.



VARIANCE: The same as that term is defined or described in Minnesota statutes, chapter 462 (for municipalities).

WATER ORIENTED ACCESSORY STRUCTURE OR FACILITY: A small, aboveground building or other improvement, (except stairways, fences, docks, and retaining walls), which, because of the relationship of its use to a surface water feature, reasonably needs to be located closer to public waters than the normal structure setback. Examples of such structures and facilities include boathouses, gazebos, screen houses, fish houses, pump houses, and detached decks.

WETLAND: A land form that is transitional between "terrestrial" and "aquatic systems" as defined in Minnesota statutes, section 103G.005, subdivision 19.

WETLAND BOUNDARY: The boundary line between what is considered to be upland and wetland using the methodology for delineating wetlands as prescribed in Minnesota statutes, section 103G.2242, subdivision 2. (Ord. 1156, 12-12-1994; amd. Ord. 1270, 9-23-2002)

(Ord. 1359, 1-28-2008) (Ord. 1405, 2-28-2011)

1017.06: ENFORCEMENT COMPLIANCE:

The use of any shoreland of public waters, the size and shape of lots, the use, size, type and location of structures on lots; the installation and maintenance of water supply and waste disposal facilities; the filling, grading, lagooning, or dredging of any shoreland area; the cutting of shoreland vegetation and the subdivision of lots shall be in full compliance with the terms of this chapter and other applicable regulations. Construction of buildings, water supply and city utility service systems and erection of signs shall require a permit, unless otherwise expressly excluded by the requirements of this chapter. (Ord. 1156, 12-12-1994) (Ord. 1359, 1-28-2008)

1017.07: DISCLAIMER:

This chapter does not imply that areas outside of the shoreland, wetland and storm water management overland district or land uses permitted within that district will be free from flooding or flood damages. This chapter does not create liability on the part of the city or its officers or employees for any flood damage that may result from reliance on this chapter or any administrative decisions made under it. (Ord. 1156, 12-12-1994) (Ord. 1359, 1-28-2008)

1017.08: INTERPRETATION:

In their interpretation and application, the provisions of this chapter shall be held to be minimum requirements and shall be liberally construed in favor of the governing body and shall not be deemed a limitation or repeal of any other powers granted by state statutes. (Ord. 1156, 12-12-1994) (Ord. 1359, 1-28-2008)

1017.09: SEVERABILITY:

If any section, clause, provision or portion of this chapter is adjudged unconstitutional or invalid by a court of competent jurisdiction, the remainder of this chapter shall not be affected thereby. (Ord. 1156, 12-12-1994) (Ord. 1359, 1-28-2008)

1017.10: ABROGATION AND GREATER RESTRICTIONS:

It is not intended by this chapter to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this chapter imposes greater restrictions, the provisions of this chapter shall prevail. (Ord. 1156, 12-12-1994) (Ord. 1359, 1-28-2008)

1017.11: ADMINISTRATION:

- A. Enforcement: The Community Development Department is responsible for the overall administration and enforcement of this chapter. Any violation of the provisions of this chapter, the provisions of any permit issued in accordance with this chapter or failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with grants of variances or conditional uses) shall constitute a misdemeanor and shall be "punishable" as defined by law or as otherwise provided in this code.
- B. Permits Required:
 - 1. In addition to any permit requirements of an underlying district or specific shoreland or waterfront improvements, permits are required for the construction of retaining walls, driveways, parking lots, patios, fences, water related accessory structures, watercraft accessory devices and signs within the building setback area from the ordinary high water mark. Application for a permit shall be made to the Community Development Department on the forms provided. The application shall include the necessary information including visual displays, soil, slope and vegetation protection plans so that city staff can determine the site's suitability for the intended use.
 - 2. All permits within this chapter must specify a termination date, not to exceed 12 months from the date of issuance. A permit may be determined to be null and void by the Community Development Department if it is determined after issuance that false supporting information was filed with the permit application. As part of any such determination, the Director may issue a stop work order, post the same on site, send a copy by certified mail to the permittee and determine what other enforcement action is necessary.
- C. Certificate of Zoning Compliance: The Community Development Department shall issue a certificate of zoning compliance for each activity requiring a permit as specified in this chapter. This certificate shall specify that the use of land conforms to the requirements of this Chapter. (Ord. 1156, 12-12-1994)
(Ord. 1359, 1-28-2008) (Ord. 1405, 2-28-2011)

1017.12: WATER MANAGEMENT OVERLAY DISTRICTS:

- A. Creation: The Water Management Overlay District hereby created and is divided into the following subdistricts as shown on the Official Zoning Map or an attachment thereto: the Shoreland District, the Wetland Protection District, and the Storm Water District.
 - 1. Shoreland District: All land meeting the definition of shoreland adjacent to the public waters listed in Section 1017.13 of this Chapter. (Ord. 1359, 1-28-2008)
 - 2. Wetland Protection District: All upland within one hundred (100) feet of the wetland boundary of wetlands and those public waters not specifically listed as shoreland.
 - 3. Storm Water District: All land either within one hundred (100) feet of the normal water level of constructed storm water ponds or wetlands managed for storm water quantity and quality management purposes, or all land below the 100-year flood elevation of such ponds or wetlands, whichever is most restrictive.
- B. Official Zoning Map: The amended Official Zoning Map, with Water Management Overlay Districts, is hereby adopted by reference and declared to be a part of this Chapter.
- C. Maintenance of Records: Said Official Zoning Map shall be on file in the office of the Community Development Department. The Community Development Department shall maintain the necessary records to maintain and display the Official Zoning Map as amended. (Ord. 1405, 2-28-2011)

- D. Boundaries: The boundaries of the overlay districts as shown on the Official Zoning Map are considered to be approximate and must be established on the ground at the time of any application for permit, variance, conditional use or subdivision of land. (Ord. 1405, 2-28-2011)
- E. Allowable Land Uses: The existing zoning on the site shall specify the allowable land uses but all such uses must additionally comply with any more restrictive standards and criteria of this Chapter.
- F. Private Sewer Systems Prohibited: Individual on-site sewage treatment systems are prohibited in all Water Management Overlay Districts. (Ord. 1156, 12-12-1994) (Ord. 1359, 1-28-2008)

1017.13: SHORELAND CLASSIFICATIONS:

The following public waters of the City have been classified either consistent with the criteria found in Minnesota Regulations, part 6120.3300, and the Protected Waters Inventory Map for Ramsey County, Minnesota, or classified by the City when no classification was available from the Minnesota Department of Natural Resources. The "shoreland area" for the water bodies listed in the table below shall be as defined in this Chapter and shown on the Official Zoning Map. "Wetland protection areas" shall be as defined in subsection 1017.12A2 of this Chapter. "Storm water protection areas" shall be as defined in subsection 1017.12A3 of this Chapter. (Ord. 1156, 12-12-1994)

Shoreland Classification Table			
	<u>Lake Name</u>	<u>MnDNR ID#</u>	<u>Classification</u>
MnDNR Designated Shoreland:	Lake Josephine	57P	GD
	Lake Owasso	56P	GD
	Little Lake Johanna	58P	RD
	North Bennett	207P	GD
	McCarrons	54P	
City Designate Shoreland:	Langton Lake	49P	GD
	Zimmerman Lake	53W	GD
	Bennett Lake	48W	GD
	Walsh Lake	214W	GD
	Willow Lake	210W	GD
	Oasis Pond	205W	GD
GD=General Development RD=Recreational Development			

(Ord. 1156, 12-12-1994; amd. Ord. 1216, 12-14-1998) (Ord. 1359, 1-28-2008) (Ord. 1405, 2-28-2011)

1017.14: WATER MANAGEMENT OVERLAY DISTRICT LOT STANDARDS:

- A. Additional Standards: The following development standards are in addition to any standards that apply specifically to the underlying zoning district. Where there is conflict between the underlying and overlying district standards, the most restrictive shall apply.
- B. Lot Area and Width Standards: The lot area (in square feet) and lot width standards (in feet) for single and duplex housing on residential lots created after the date of enactment

of this Chapter for the lake classifications are the following:

1. Shoreland Overlay District Lot Standards:

	<u>Recreation Development Lakes</u>				<u>General Development Lakes</u>			
Underlying Zones	Riparian Lots		Nonriparian Lots		Riparian Lots		Nonriparian Lots	
	Area*	Width*	Area*	Width*	Area*	Width*	Area*	Width*
R-1 (Single Family)	15,000	100	11,000	85	15,000	100	11,000	85
R-2 (Duplex)	35,000	135	26,000	135	26,000	135	17,500	135
* Area means land above the normal ordinary high water level. (Ord. 1405, 2-28-2011)								

2. Wetland Overlay District Lot Standards: The minimum lot area, width and depth requirements of the underlying land use zoning district within this code shall apply provided that not more than 25% of the lot area may be included in any wetland area to meet the minimum lot area dimension.

3. Storm Water Overlay District Lot Standards: The minimum lot area, width and depth requirements of the underlying land use zoning district within this code shall apply provided that not more than 25% of the lot area may be included in any storm pond or wetland area (which is below the normal level of the adjacent storm water pond) to meet the minimum lot area dimension. (Ord. 1156, 12-12-1994)

(Ord. 1359, 1-28-2008)

1017.15: ADDITIONAL LOT DIMENSION REQUIREMENTS:

- A. Dwelling Unit Densities: Only land above the ordinary high water level of public waters may be used to meet lot area standards. Lot width standards shall be met at both the ordinary high water level and at the building line. Not more than 25% of the lot area of each lot may be included in any wetland, which is below the normal ordinary high water level. (Ord. 1359, 1-28-2008) (Ord. 1405, 2-28-2011)
- B. Controlled Accesses: Lots intended as controlled accesses to public waters or as recreation areas for use by owners of nonriparian lots within subdivisions shall be allowed only a conditional use and shall meet or exceed the following standards: (Ord. 1405, 2-28-2011)
 - 1. They shall be suitable in terms of physical access and potential slope erosion and vegetation damage for the intended uses of controlled access lots;
 - 2. They shall have a specific lot size not less than 170 feet (two 85-foot wide lots combined);
 - 3. They shall be jointly owned by all purchasers of lots in the subdivision or by all purchasers of nonriparian lots in the subdivision who are provided riparian access rights on the access lot; and
 - 4. Covenants or other equally effective legal instruments shall be developed that specify which lot owners have authority to use the access lot and what activities are allowed. The activities may include watercraft launching, loading, storage, beaching, mooring, or docking. They may also include other outdoor recreational activities that do not significantly conflict with general public use of the public water or the enjoyment of

normal property rights by adjacent property owners. Examples of the nonsignificant conflict activities include swimming, sunbathing, or picnicking. The covenants shall limit the total number of vehicles allowed to be parked and the total number of watercraft allowed to be continuously moored, docked, or stored over water, and shall require centralization of all common facilities and activities in the most suitable locations on the lot to minimize topographic and vegetation alterations. They shall also require all parking areas, storage buildings, and other facilities to be screened by vegetation or topography as much as practical from view from the public water, assuming summer, leaf-on conditions. (Ord. 1156, 12-12-1994)

1017.16: STRUCTURE DESIGN STANDARDS:

- A. Placement of Structures on Lots: When more than one setback applies to a site, structures and facilities shall be located to meet the most restrictive setbacks. Where structures exist on the adjoining lots on both sides of a proposed building site, structure setbacks may be altered without a variance to conform to the average setback of adjoining structures from the ordinary high water level, provided the proposed building site is not located in a shore impact zone or in a bluff impact zone. Structures shall be located as follows:

STRUCTURE SETBACKS FROM WATER BODY				
Type of Water Body	Structure Setback from Water Body	Structure Setback from Bluff	Roads, Driveway, Parking and Other Impervious Surface or Setback	Maximum Bldg/Structure Height ⁴
MnDNR and City Public Waters	75 Ft. ^{1,3}	30 Ft.	30 Ft. ⁵	30 Ft.
Wetland	50 Ft. ^{2,3}	Not Applicable	30 Ft. ⁵	30 Ft.
Storm Pond	10 Ft. ^{2,3}	Not Applicable	10 Ft.	30 Ft.
1. Setback is measured from the normal ordinary high water level. 2. Setback is measured from the wetland or pond boundary. 3. One water- oriented accessory structure designed in accordance with subsection 1017.17C of this chapter may be set back a minimum distance of 10 feet from the ordinary high water level. 4. See subsection 1017.17G of this chapter. 5. A 30 foot setback from road or parking surfaces may include a combination of land within rights of way and adjacent to the right of way, as well as curb and gutter controlling runoff and sediment to a storm pond. Pedestrian trails shall be exempt from setback requirements.				

All other structure setback requirements shall be as stated in the underlying zoning district for each parcel.
(Ord. 1405, 2-28-2011)

- B. Additional Structure Standards for All Districts:

1. Bluff Impact Zones: Structures and accessory facilities, except stairways and landings, shall not be placed within bluff impact zones.
2. Commercial Or Industrial Land Uses: Commercial or industrial land uses without water oriented uses shall be located on lots or parcels without public waters frontage, or, if located on lots or parcels with public waters frontage, the principal structure, accessory buildings and parking areas, shall either be set back 150 feet from the ordinary high water level or be set back one hundred (100) feet and be 50% screened by opaque vegetation from view from the water by vegetation or topography, assuming summer, leaf-on conditions. (Ord. 1156, 12-12-1994)
3. Fences: In bluff impact, shoreland, and wetland zones, fences shall be set back the same distance from the shoreline as required for the principal structure or attached deck on the lot, except that a fence on a lot with a preexisting principal structure and attached deck may extend to the same setback as the deck or the structure. Fences shall be of similar design, texture, and color as the principal structure or shall be of an earth tone or color and material.

Fences used for safety or containment may be set within 25 feet of the OHWL. Such fences shall be a maximum of 25% opaque, and no more than 42 inches in height.

Such fences shall be clad in earth tone coatings.

With the exception of regulations in this subsection, fences in bluff impact, shoreland, and wetland zones shall meet all height and setback requirements of section 1011.08 of this title. Fences placed on the road side of a lot with water or wetland frontage shall comply with front yard fence requirements of section 1011.08 of this title. (Ord. 1270, 9-23-2002) (Ord. 1359, 1-28-2008) (Ord. 1405, 2-28-2011)

1017.17: GENERAL DESIGN CRITERIA FOR STRUCTURES:

- A. Low Floor Elevations: All habitable structures constructed within the overlay district shall be built with their lowest floor, including basement, no lower than the following elevation criteria, whichever provides the greater degree of protection as determined by the city engineer:
 1. Two feet above the 100-year flood elevation, if known; or
 2. At least three feet above the highest known water level, or three 3 feet above the ordinary high water level, whichever is higher; or
 3. At least three 3 feet above the "wetland boundary" as defined in Section 1017.05 of this Chapter.The City Engineer shall develop and maintain a list of elevations of known 100-year flood levels, ordinary high water levels, highest known water levels and wetland boundary levels as they become available through special studies or the Minnesota Department of Natural Resources.
- B. Low Floor Elevations Exceptions: A variance may be granted from the elevation requirements specified in subsection A above only where a hardship is determined and provided the structure is flood-proofed according to State and Federal standards for floodplain areas.

Water-oriented accessory structures may have the lowest floor placed lower than the elevation determined in subsection A if the structure is constructed of flood-resistant materials to the elevation, electrical and mechanical equipment is placed above the elevation and, if long duration flooding is anticipated, the structure is built to withstand ice action and wind-driven waves and debris.
- C. Permitted Water-Oriented Accessory Structures: Each lot may have one water-oriented non-habitable accessory structure not meeting the normal structure setback in subsection 1017.16A of this Chapter if this water-oriented accessory structure complies

with the following provisions:

1. Water oriented accessory structure dimensional requirements:

- | | | |
|----|---|-----------------|
| a. | Maximum floor area: | 250 square feet |
| b. | Maximum width as viewed from water: | 12 feet |
| c. | Maximum height: | 10 feet |
| d. | Setback from ordinary high water: | * |
| e. | Boathouse setback from ordinary high water level: | 10 feet** |
| f. | Side yard setback from property line: | 20 feet |
| g. | Detached deck height above grade: | 8 feet |

* 50% of distance between ordinary high water mark and the structure setback from the water.

** Also permitted for docks, and off-season storage of ice fishing houses and docks.

2. The structure or facility shall be constructed of material architecturally similar in design, texture, and color to the principal structure on the lot; the design shall be reviewed by the City Planner prior to issuance of building permits.

3. The structure shall be screened a minimum of 50% by opaque vegetation or topography on the three walls seen from the lake with ecologically suited landscaping landward of the ordinary high water level from the lake.

4. The roof shall not be used as a deck or used as a storage area.

5. The structure or facility shall not be designed or used for human habitation and shall not contain utility systems.

D. Stairways, Chair Lifts, and Stair and Deck Landings: Stairways and chair lifts shall be used for achieving access up and down bluffs and steep slopes to shore areas. Stairways and lifts shall meet the following design requirements:

1. Stairways and chair lifts shall not exceed four feet in width on residential lots. Wider stairways may be used for commercial properties, and public open-space recreational properties; (Ord. 1405, 2-28-2011)

2. Stair and deck landings for stairways and chair lifts on residential lots shall not exceed 48 square feet in area. Landings larger than 48 square feet may be used for commercial properties, and public open-space recreational properties; (Ord. 1405, 2-28-2011)

3. Canopies or roofs shall not be permitted on stairways, chair lifts, or stair or deck landings;

4. Stairways, chair lifts, and stair or deck landings shall be either constructed above the ground on posts or pilings, or placed into the ground, provided they are designed and built in a manner that ensures control of soil erosion;

5. Stairways, chair lifts, and stair or deck landings shall be located in the most visually inconspicuous portions of lots, as viewed from the surface of the public water assuming summer, leaf-on conditions, whenever practical; and

6. Facilities such as ramps, chair lifts, or mobility paths for physically handicapped persons shall be permitted for achieving access to shore areas, provided that the dimensional and performance standards of subsections 1 through 5 are complied with in addition to the requirements of Minnesota Rules, Chapter 1340.

- E. Significant Historic Sites: No structure may be placed on a significant historic site in a manner that affects the values of the site unless adequate information about the site has been removed and documented in a public repository.
 - F. Steep Slopes, Visibility and Erosion: The Public Works and Community Development Directors shall evaluate possible soil erosion impacts and development visibility from public waters prior to issuance of a permit for construction of roads, driveways, structures, or other improvements on steep slopes. An erosion and sedimentation control plan shall be prepared as required by Section 803.04: Erosion and Sedimentation Control. When necessary, conditions shall be attached to the permit to preserve existing vegetation, screening of structures, vehicles, and other facilities as viewed from the surface of public waters, assuming summer, leaf-on vegetation. (Ord. 1342, 11-13-2006) (Ord. 1416, 9-26-2011)
 - G. Height of Structures: All structures in residential districts, except steeples and chimneys from churches and institutional uses, shall not exceed 30 feet in height.
 - H. Placement and Design of Roads, Driveways, and Parking Areas:
 - 1. Public and private roads and parking areas shall be designed to utilize natural vegetation and topography to achieve maximum screening from view of public waters. The Public Works Director shall review all roads and parking areas to ensure they are designed and constructed to minimize and control erosion, consistent with Section 803.04: Erosion and Sedimentation Control. (Ord. 1342, 11-13-2006) (Ord. 1416, 9-26-2011)
 - 2. Roads, driveways, and parking areas shall meet structure setbacks outlined in subsection 1017.16A and shall not be placed within bluff and shore impact zones, when other reasonable and feasible placement alternatives exist. If no alternatives exist, they may be placed within these areas, and shall be designed to minimize adverse impacts.
 - 3. Public and private watercraft, canoe rack storage, access ramps, approach roads, and access-related parking areas may be placed within shore impact zones provided the vegetative screening and erosion control conditions of this subsection are met. For private facilities, the grading and filling provisions of Section 1017.25 of this Chapter shall be met. (Ord. 1156, 12-12-94)
- (Ord. 1359, 1-28-2008)

1017.18: DESIGN CRITERIA FOR COMMERCIAL, INDUSTRIAL, PUBLIC AND SEMI-PUBLIC USES:

- A. Uses With Water-Oriented Needs: Surface water-oriented commercial uses and industrial, public, or semi-public uses with similar needs to have access to and use of public waters may be located on parcels or lots with frontage on public waters. Those uses with water-oriented needs must meet impervious coverage limits, setbacks, and other zoning standards in this Chapter. The uses shall also be designed to incorporate topographic and vegetative screening of parking areas and structures.
- B. Uses Without Water-Oriented Needs: Uses and surface parking without water-oriented needs shall be located on lots or parcels without public waters frontage, or, if located on lots or parcels with public waters frontage, must be set back double the normal ordinary high water level setback and shall be screened by fifty percent (50%) opaque or more screen from view from the water by vegetation or topography, assuming summer, leaf-on conditions. (Ord. 1156, 12-12-94) (Ord. 1359, 1-28-2008)

1017.19: NOTIFICATIONS TO THE DEPARTMENT OF NATURAL RESOURCES:

- A. Notice of Public Hearings: Copies of all notices of any public hearings to consider

variances, ordinance amendments, or conditional uses affecting a MnDNR designated shoreland district shall be sent to the MnDNR, Division of Waters Regional Hydrologist and postmarked at least ten days before the hearings. Notices of hearings to consider proposed subdivisions/plats shall include copies of the subdivision/plat.

- B. Notice of Approval: A copy of approved amendments and subdivisions/plats, and final decisions granting variances, or conditional uses in a MnDNR designated shoreland district shall be sent to the MnDNR, Division of Waters Regional Hydrologist and postmarked within ten (10) days of final action. (Ord. 1156, 12-12-94) (Ord. 1359, 1-28-2008)

(Ord. 1405, 2-28-2011)

1017.20: VARIANCES:

- A. Procedure: Variances in these overlay districts may only be granted in accordance with Minnesota Statutes, Chapter 462 and Section 1009.04 of this Title. A variance shall not circumvent the general purposes and intent of this Chapter. No variance shall be granted for a use that is prohibited within the zoning district in which the subject property is located. Conditions may be imposed in the granting of a variance to ensure compliance and to protect adjacent properties and the public interest.
- B. Notice of Approval: When a variance is approved in a MnDNR designated shoreland district after the Department of Natural Resources has formally recommended denial in the hearing record, the notification of the approved variance required in subsection 1017.19B shall also include the official summary of the public record/testimony, the findings of facts, and conclusions which supported the issuance of the variance. (Ord. 1156, 12-12-94) (Ord. 1359, 1-28-2008)

(Ord. 1405, 2-28-2011)

1017.21: CONDITIONAL USES:

Conditional uses allowable within shoreland areas shall be subject to all of the review and approval procedures of this Section 1009.02 of this Title. The following additional evaluation criteria and conditions apply within shoreland areas:

- A. Evaluation Criteria: A thorough evaluation of the waterbody and the topographic, vegetation, and soil conditions on the site shall be made to ensure:
 - 1. The prevention of soil erosion or other possible pollution of public waters, both during and after construction;
 - 2. The visibility of structures and other facilities as viewed from public waters is limited;
 - 3. The types, uses, and numbers of watercraft that the project will generate can be safely accommodated on the site;
 - 4. The impact the proposed use may have on the water quality of the water body is not excessive.
- B. Conditions Attached to Conditional Use Approvals: The City Council, upon consideration of the criteria listed above and the purposes of this Chapter may attach such conditions to Conditional Use approvals as it deems necessary. Such conditions may include, but are not limited to, the following:
 - 1. Increased setbacks from the ordinary high water level;
 - 2. Limitations on the natural vegetation to be removed or the requirement that additional vegetation be planted; and
 - 3. Special provisions for the location, design, and use of structures, watercraft launching and docking areas, and vehicle parking areas. (Ord. 1156, 12-12-94)

(Ord. 1359, 1-28-2008) (Ord. 1405, 2-28-2011)

1017.22: NONCONFORMITIES:

All legally established nonconformities as of the date of this Code amendment may continue, but they shall be managed according to applicable State statutes and the requirements of Section 1002.04 of this Title for the subjects of alterations and additions, repair after damage, discontinuance of use and intensification of use. (Ord. 1405, 2-28-2011) The following standards apply to nonconforming lots and uses in the shoreland management areas:

- A. Construction on Nonconforming Lots of Record:
 - 1. Lots of record in the office on the County Recorder on the date of enactment of the City shoreland controls (March 27, 1974) that do not meet the requirements of this Chapter may be allowed as building sites without variances from lot size requirements provided; the use is permitted in the zoning district; all sanitary requirements of the City Code are complied with insofar as practical; and the minimum lot size and length of water frontage shall be not less than seventy percent (70%) of standard lot water frontage requirements; the lot has been in separate ownership from abutting lands since the original adoption of the City shoreland controls (March 27, 1974).
 - 2. A variance from setback requirements shall be obtained before any use or building permit is issued for a lot. In evaluating the variance, the Board of Adjustment shall consider, in addition to the requirements of Section 1017.20, public utilities available to the lot and shall deny the variance if adequate facilities cannot be provided. (Ord. 1359, 1-28-2008)
 - 3. If, in a group of two or more contiguous lots under one ownership since the original adoption of the City shoreland controls (March 27, 1974), any individual lot does not meet the requirements of Section 1017.17, the lot shall not be considered as a separate parcel of land for the purposes of development. The lot shall be combined with the one or more contiguous lots so they equal one or more parcels of land, each meeting the requirements of Sections 1017.14 through 1017.16 of this Chapter. (Ord. 1359, 1-28-2008)
- B. Additions/Expansions to Nonconforming Structures: All additions or expansions to the outside dimensions of an existing nonconforming structure must meet the setback, height, and other requirements of Sections 1017.14 through 1017.16. Any deviation from these requirements may only be authorized by a variance pursuant to Section 1017.20.
- C. Deck Additions: Deck additions may be allowed, without a variance, to a structure which does not meet the required setback from the ordinary high water level, if all of the following criteria and standards are met:
 - 1. The structure existed prior to the date the City's original shoreland structure setbacks were established on March 27, 1974.
 - 2. A thorough evaluation of the property and structure reveals no reasonable location for a deck meeting or exceeding the existing ordinary high water level setback of the structure.
 - 3. The new deck encroachment toward the ordinary high water level does not exceed 15% of the existing setback of the structure from the ordinary high water level or does not encroach closer than 30 feet, whichever is more restrictive; and the deck shall be constructed of materials similar to the materials of the principal structure, wood, or earth tone; and the new deck shall not be roofed or screened.
- D. Existing Decks: Existing decks, at the date of adoption of this Chapter, which meet the required setbacks and have had valid building permits, may be enclosed as part of the structure. Deck extensions beyond and from a nonconforming, enclosed deck which would increase the nonconforming setback, shall not be permitted. (Ord. 1156, 12-12-

1017.23: SUBDIVISION/PLATTING PROVISIONS:

- A. Land Suitability: Each lot created through subdivision shall be suitable for the proposed use as defined by the suitability analysis. Suitability analysis shall consider susceptibility to flooding, existence of wetlands, soil and rock formations with severe limitations for development, severe erosion potential, steep topography, availability of City sewer and water, near-shore aquatic conditions unsuitable for water-based recreation, important fish and wildlife habitat, presence of significant historic sites, or any other feature of the natural land likely to be harmful to the health, safety, or welfare of future residents of the proposed subdivision or of the community. (Ord. 1405, 2-28-2011)
- B. Consistency With Other Controls: Subdivisions shall conform to all official controls of this community. A subdivision shall not be approved where a later variance from one or more standards in official controls would be needed to use the lots for their intended purpose. Each lot shall meet the minimum lot size and dimensional requirements of Sections 1017.14 through 1017.16.
- C. Information Requirements: Sufficient information shall be submitted by the applicant for the community to make a determination of land suitability. The information shall include at least the following:
 - 1. Topographic contours at two (2) foot intervals or less from City public works maps or more accurate sources, showing limiting site characteristics;
 - 2. The surface water features required in Minnesota Statutes, section 505.02, subdivision 1, to be shown on plats, obtained from United States Geological Survey quadrangle topographic maps or more accurate sources;
 - 3. Adequate soil information to determine suitability for building and public utilities for every lot from the most current existing sources or from field investigations such as soil borings or other methods;
 - 4. Information regarding adequacy of domestic City water supply; extent of anticipated vegetation and topographic alterations; near-shore aquatic conditions, including depths, types of bottom sediments, and aquatic vegetation; and proposed methods for controlling storm water runoff and erosion, both during and after construction activities;
 - 5. Location of 100-year flood plain areas and floodway districts from existing adopted maps or data; and
 - 6. A line or contour representing ordinary high water level, the toe and the top of bluffs, and the minimum building setback distances from the top of the bluff and the lake or stream.
- D. Dedications: When an on-site storm water ponding area is required by a project to store surface water runoff, the City may require easements over natural drainage or ponding areas for future maintenance of storm water and significant wetlands.
- E. Platting: All subdivisions that create three or more lots or parcels that are two and one-half acres or less in size shall be processed as a plat in accordance with City Subdivision Regulations¹. (Ord. 1156, 12-12-94) (Ord. 1359, 1-28-2008)

1017.24: PLANNED UNIT DEVELOPMENT REQUIREMENTS- REPEALED (Ord. 1405, 2-28-2011)

1017.25: GRADING, FILLING AND LAND ALTERATION:

¹ Title 11 of this Code.

- A. Permit Required: No person, firm or corporation may engage in any excavation, grading, surfacing or filling of land in the City without first securing a permit as set forth in this Section.
1. Permit from City Engineer/Public Works Director: A permit is required from the City Engineer/Public Works Director or designee, for any of the following activities:
- a. Placement of or grading of more than ten cubic yards of material on steep slopes adjacent to lakes and wetlands or within the shore or bluff impact zones.
 - b. Placement of or grading of more than 50 cubic yards of earthen material anywhere in the City.
 - c. Where filling or grading occurs within ten feet of a property line or when such activity alters the drainage patterns of adjacent properties.
2. Permit from City Council: A permit from the City Council is required for any projects meeting the following criteria:
- a. Any fill, grading, or drainage of a public water or a wetland, provided the City Council first determines that the project is either exempt from the 1991 Wetlands Conservation Act or certifies the replacement of any loss of wetland area, values and functions in accordance with Minnesota Rules, Chapter 8420 as amended. Questions relating to wetland type, location, area, functions and values must be referred to the technical advisory panel established by Minnesota Statutes section 103G.2242 as amended.
 - b. For any filling or excavating on developed land zoned LDR-1 or LDR-2 where the site is less than one acre and the fill or excavation exceeds 500 cubic yards. (Ord. 1405, 2-28-2011)
 - c. For any filling or excavating on developed land zoned LDR-1 or LDR-2 where the site is one acre or greater and the proposed fill/excavation exceeds 1,000 cubic yards. (Ord. 1405, 2-28-2011)
 - d. For any filling or excavating on undeveloped land zoned LDR-1 or LDR-2 where the site is less than one acre and the proposed fill/excavation exceeds 2,000 cubic yards. (Ord. 1405, 2-28-2011)
 - e. For any filling or excavating on undeveloped land zoned LDR-1 or LDR-2 where the site is greater than one acre and the proposed fill/excavation exceeds 4,000 cubic yards. (Ord. 1405, 2-28-2011)
 - f. For any filling or excavating on developed commercial/industrial property where the site is less than two and one-half acres and the proposed fill/excavation exceeds 2,500 cubic yards.
 - g. For any filling or excavating on developed commercial/industrial property where the site is greater than two and one-half acres and the proposed fill/excavation exceeds 5,000 cubic yards.
 - h. For any filling or excavating on undeveloped commercial/industrial property where the site is less than two and one-half acres and the proposed fill/excavation exceeds 5,000 cubic yards.
 - i. For any filling or excavating on undeveloped commercial/industrial property where the site is greater than two and one-half acres and the proposed fill/excavation exceeds 10,000 cubic yards.
- B. Applications For Permits, Additional Information: All applications for permits for grading and filling activities or land disturbances within the overlay district shall be accompanied by plans, specifications, and completion schedules in conformance with Section 803.04: Erosion and Sedimentation Control. (Ord. 1342, 11-13-2006) (Ord. 1416, 9-26-2011)
- C. Building Permits, Special Provisions: All building permits involving any excavation, fill or grading shall contain special provisions that specify:

1. That the permittee is responsible for the cleanup and any damages resulting from soil eroded from the building site onto public streets, into the storm sewer system and onto any adjoining private property as required in Section 803.04: Erosion and Sedimentation Control; and (Ord. 1342, 11-13-2006)
 2. That the permittee shall install and maintain erosion control as required in Section 803.04: Erosion and Sedimentation Control. (Ord. 1342, 11-13-2006) (Ord. 1416, 9-26-2011)
- D. Shoreland Alterations: Alterations of vegetation and topography shall be regulated to prevent erosion into public waters, fix nutrients, preserve shoreland aesthetics, preserve historic values, prevent bank slumping, and protect fish and wildlife habitat. Fill and grading activities within shoreland shall comply with subsections 1017.24A2a through A2i and 1017.24B. Erosion control measures shall comply with Section 803.04: Erosion and Sedimentation Control. (Ord. 1342, 11-13-2006) (Ord. 1405, 2-28-2011) (Ord. 1416, 9-26-2011)
- E. Vegetation Alterations in Shoreland Areas:
1. Exemption: Vegetation alteration necessary for the construction of structures and roads and parking areas regulated by Sections 1017.14 through 1017.16 of this Chapter are exempt from the vegetation alteration standards that follow.
 2. Vegetation Alteration Standards: Removal or alteration of vegetation is allowed subject to the following standards:
 - a. Intensive vegetation clearing within the shore and bluff impact zones and on steep slopes is not allowed. Intensive vegetation clearing outside of the impact zones is allowable as a conditional use if an erosion control and sedimentation plan is developed per the requirements of Section 803.04: Erosion and Sedimentation Control. (Ord. 1342, 11-13-2006) (Ord. 1359, 1-28-2008) (Ord. 1416, 9-26-2011)
 - b. In shore and bluff impact zones and on steep slopes, limited clearing of trees and shrubs and cutting, pruning, and trimming of trees may be allowed to provide a view to the water from the principal dwelling site and to accommodate the placement of lawns and new vegetation, stairways and landings, picnic areas, access paths, beach and watercraft access areas, and permitted water-oriented accessory structures or facilities, provided that the screening of structures, vehicles, or other facilities as viewed from the water, assuming summer, leaf-on conditions, is not substantially reduced; and
 - c. The above provisions are not applicable to the removal of trees, limbs, or branches that are dead, diseased, or pose safety hazards.
 3. Connections to Public Waters: Excavations where the intended purpose is connection to a public water, such as boat slips, canals, lagoons, and harbors, shall be controlled by subsections A through D of this section. Permission for excavations may be given only after the commissioner has approved the proposed connection to public waters and other needed approvals have been obtained. (Ord. 1156, 12-12-1994) (Ord. 1359, 1-28-2008) (Ord. 1416, 9-26-2011)

1017.26: STORM WATER MANAGEMENT:

The following general and specific standards shall apply to all developments within the city:

A. General Standards:

1. Existing Natural Drainageways: When possible, existing natural drainageways, and vegetated soil surfaces shall be used to convey, store, filter, and retain storm water runoff before discharge to public waters.
2. Minimum Disturbance: Development shall be planned and conducted in a manner that will minimize the extent of disturbed areas, runoff velocities, erosion potential, and reduce and delay runoff volumes. Disturbed areas shall be stabilized and protected as

soon as possible and facilities or methods used to retain sediment on the site.

3. Constructed Facilities: When development density, topographic features, and soil and vegetation conditions are not sufficient to adequately handle storm water runoff using natural features and vegetation, various types of constructed facilities such as diversions, settling basins, skimming devices, dikes, waterways, and ponds may be used. Preference shall be given to designs using surface drainage, vegetation, and infiltration rather than buried pipes and manmade materials and facilities.

B. Specific Standards:

1. Impervious Surface Coverage: Impervious surface coverage of a site shall not exceed 25% of the site area in a shoreland or wetland overlay district unless storm water is conveyed to an approved, on-site or regional storm water ponding/retention facility designed to accommodate the increased runoff prior to discharge from the site into public waters or wetlands.

2. Review by City Engineer: All proposed storm water facilities shall be reviewed by the city engineer and certified for compliance with the city's surface water management plan, National Urban Runoff Program (NURP) standards, the Minnesota Pollution Control Agency's (MPCA) Urban Best Management Practices, and any established standards of the water management organization having jurisdiction in the project area.

3. Commercial, Industrial, and Residential Development Affection: All commercial and industrial developments and redevelopments affecting more than five acres of land and all residential developments affecting more than five 5 acres of land shall:

a. Be served by storm water ponding facilities, on- or off-site, designed to remove a minimum of 90% of total suspended solids resulting from the runoff from a one inch rainfall event, and

b. Within the development, provide for settling chambers, sumps, dry ponds or other devices to provide for the filtering or settling of fine sands prior to discharge into the city's storm water system.

4. Private Storm Water Facilities: All private storm water facilities shall be maintained in proper condition consistent with the performance standards for which they were originally designed. All settled materials from ponds, sumps, grit chambers, and other devices, including settled solids, shall be removed and properly disposed of on a five year interval. One to five year waivers from this requirement may be granted by the city engineer when the owner presents evidence that the facility has additional capacity to remove settled solids in accordance with the original design capacity.

5. Inventory of Private Storm Water Facilities: Upon adoption of this chapter, the city engineer shall inventory and maintain a data base for all private storm water facilities requiring maintenance to assure compliance with this section. (Ord. 1239, 4-24-2000)

(Ord. 1359, 1-28-2008)

1017.27: AMENDMENT:

This chapter may be amended whenever the public necessity and the general welfare require such amendment by following the procedure specified in Section 1009.06 of this Code.

(Ord. 1405, 2-28-2011)

CHAPTER 1021

FLOODPLAIN REGULATIONS

SECTION:

- 1021.01: Statutory Authorization, Findings of Fact and Purpose
- 1021.02: General Provisions
- 1021.03: Establishment of Zoning Districts
- 1021.04: Floodway District (FW)
- 1021.05: Floodfringe District (FF)
- 1021.06: Procedures for Determining 1% Annual Chance Flood Elevations
(100-YR flood elevations) in Zone A
- 1021.07: Subdivisions
- 1021.08: Public Utilities, Railroads, and Bridges
- 1021.09: Placement of Recreation Vehicles
- 1021.10: Administration
- 1021.11: Nonconformities
- 1021.12: Penalties for Violation
- 1021.13: Amendments

1021.01: STATUTORY AUTHORIZATION, FINDINGS OF FACT AND PURPOSE

- A. Statutory Authorization: The legislature of the State of Minnesota has, in Minnesota Statutes Chapter 103F and Chapter 462 delegated the responsibility to local government units to adopt regulations designed to minimize flood losses. Therefore, the City Council of the City of Roseville, Minnesota does ordain as follows:
- B. Findings of Fact:
 - 1. The flood hazard areas of the City of Roseville, Minnesota, are subject to periodic inundation which results in potential loss of life, loss of property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures or flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.
 - 2. Methods Used to Analyze Flood Hazards. This Ordinance is based upon a reasonable method of analyzing flood hazards which is consistent with the standards established by the Minnesota Department of Natural Resources.
 - 3. National Flood Insurance Program Compliance. This Ordinance is adopted to comply with the rules and regulations of the National Flood Insurance Program codified as 44 Code of Federal Regulations Parts 59 -78, as amended, so as to maintain the community's eligibility in the National Flood Insurance Program.
- C. Statement of Purpose: It is the purpose of this Ordinance to promote the public health, safety, and general welfare and to minimize those losses described in Section B-1 by provisions contained herein.

1021.02: GENERAL PROVISIONS

- A. Lands to Which Ordinance Applies: This Ordinance shall apply to all lands within the

- jurisdiction of the City of Roseville shown on the Official Zoning Map and/or the attachments thereto as being located within the boundaries of the Floodway, Flood Fringe, or General Flood Plain Districts.
- B. Establishment of Official Zoning Map: The Official Zoning Map together with all materials attached thereto is hereby adopted by reference and declared to be a part of this Ordinance. The attached material shall include the Flood Insurance Study for the Ramsey County, Minnesota (All Jurisdictions); Flood Insurance Rate Map panels therein numbered 27123C0012G, 27123C0015G, 27123C0016G, 27123C0020G, 27123C0036G, 27123C0038G, 27123C0080G, 27123C0085G and 27123C0101G; and the Flood Insurance Rate Map Index (Map Number 27123CIND0B), all dated June 4, 2010 and prepared by the Federal Emergency Management Agency. The Official Zoning Map shall be on file in the Office of Community Development
- C. Regulatory Flood Protection Elevation: The regulatory flood protection elevation shall be an elevation no lower than one foot above the elevation of the regional flood plus any increases in flood elevation caused by encroachments on the flood plain that result from designation of a floodway.
- D. Interpretation:
1. In their interpretation and application, the provisions of this Ordinance shall be held to be minimum requirements and shall be liberally construed in favor of the Governing Body and shall not be deemed a limitation or repeal of any other powers granted by state statutes.
 2. The boundaries of the zoning districts shall be determined by scaling distances on the Official Zoning Map. Where interpretation is needed as to the exact location of the boundaries of the district as shown on the Official Zoning Map, as for example where there appears to be a conflict between a mapped boundary and actual field conditions and there is a formal appeal of the decision of the Zoning Administrator, the Board of Adjustment shall make the necessary interpretation. All decisions will be based on elevations on the regional (100-year) flood profile, the ground elevations that existed on the site at the time the Community adopted its initial floodplain ordinance or on the date of the first National Flood Insurance Program map showing the area within the 100-year floodplain if earlier, and other available technical data. Persons contesting the location of the district boundaries shall be given a reasonable opportunity to present their case to the Board of Adjustment and to submit technical evidence.
- E. Abrogation and Greater Restrictions: It is not intended by this Ordinance to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this Ordinance imposes greater restrictions, the provisions of this Ordinance shall prevail. All other ordinances inconsistent with this Ordinance are hereby repealed to the extent of the inconsistency only.
- F. Warning and Disclaimer of Liability: This Ordinance does not imply that areas outside the flood plain districts or land uses permitted within such districts will be free from flooding or flood damages. This Ordinance shall not create liability on the part of the City of Roseville or any officer or employee thereof for any flood damages that result from reliance on this Ordinance or any administrative decision lawfully made thereunder.
- G. Severability: If any section, clause, provision, or portion of this Ordinance is adjudged unconstitutional or invalid by a court of competent jurisdiction, the remainder of this Ordinance shall not be affected thereby.
- H. Definitions: Unless specifically defined below, words or phrases used in this Ordinance shall be interpreted so as to give them the same meaning as they have in common usage and so as to give this Ordinance its most reasonable application.

1. Accessory Use or Structure - a use or structure on the same lot with, and of a nature customarily incidental and subordinate to, the principal use or structure.
2. Basement - means any area of a structure, including crawl spaces, having its floor or base subgrade (below ground level) on all four sides, regardless of the depth of excavation below ground level.
3. Conditional Use - means a specific type of structure or land use listed in the official control that may be allowed but only after an in-depth review procedure and with appropriate conditions or restrictions as provided in the official zoning controls or building codes and upon a finding that:
 - a. Certain conditions as detailed in the zoning ordinance exist.
 - b. The structure and/or land use conform to the comprehensive land use plan if one exists and are compatible with the existing neighborhood.
4. Equal Degree of Encroachment - a method of determining the location of floodway boundaries so that flood plain lands on both sides of a stream are capable of conveying a proportionate share of flood flows.
5. Flood - a temporary increase in the flow or stage of a stream or in the stage of a wetland or lake that results in the inundation of normally dry areas.
6. Flood Frequency - the frequency for which it is expected that a specific flood stage or discharge may be equaled or exceeded.
7. Flood Fringe - that portion of the flood plain outside of the floodway. Flood fringe is synonymous with the term "floodway fringe" used in the Flood Insurance Study for Ramsey County, Minnesota (All Jurisdictions).
8. Flood Plain - the beds proper and the areas adjoining a wetland, lake or watercourse which have been or hereafter may be covered by the regional flood.
9. Flood Proofing - a combination of structural provisions, changes, or adjustments to properties and structures subject to flooding, primarily for the reduction or elimination of flood damages.
10. Floodway - the bed of a wetland or lake and the channel of a watercourse and those portions of the adjoining flood plain which are reasonably required to carry or store the regional flood discharge.
11. Lowest Floor - the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, used solely for parking of vehicles, building access, or storage in an area other than a basement area, is not considered a building's lowest floor.
12. Manufactured Home - a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured home" does not include the term "recreational vehicle."
13. Obstruction - any dam, wall, wharf, embankment, levee, dike, pile, abutment, projection, excavation, channel modification, culvert, building, wire, fence, stockpile, refuse, fill, structure, or matter in, along, across, or projecting into any channel, watercourse, or regulatory flood plain which may impede, retard, or change the direction of the flow of water, either in itself or by catching or collecting debris carried by such water.
14. Principal Use or Structure - means all uses or structures that are not accessory uses or structures.
15. Reach - a hydraulic engineering term to describe a longitudinal segment of a stream or river influenced by a natural or man-made obstruction. In an urban area, the segment of a stream or river between two consecutive bridge crossings would most typically constitute a reach.
16. Recreational Vehicle - a vehicle that is built on a single chassis, is 400 square feet or

- less when measured at the largest horizontal projection, is designed to be self-propelled or permanently towable by a light duty truck, and is designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use. For the purposes of this Ordinance, the term recreational vehicle shall be synonymous with the term travel trailer/travel vehicle.
17. Regional Flood - a flood which is representative of large floods known to have occurred generally in Minnesota and reasonably characteristic of what can be expected to occur on an average frequency in the magnitude of the 100-year recurrence interval. Regional flood is synonymous with the term "base flood", 1-percent annual chance flood or 100-year flood elevation.
 18. Regulatory Flood Protection Elevation - The regulatory flood protection elevation shall be an elevation no lower than one foot above the elevation of the regional flood plus any increases in flood elevation caused by encroachments on the flood plain that result from designation of a floodway.
 19. Structure - anything constructed or erected on the ground or attached to the ground or on-site utilities, including, but not limited to, buildings, factories, sheds, detached garages, cabins, manufactured homes, recreational vehicles not meeting the exemption criteria specified in Section 1021.09A1 of this Ordinance and other similar items.
 20. Substantial Damage - means damage of any origin sustained by a structure where the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.
 21. Substantial Improvement - within any consecutive 365-day period, any reconstruction, rehabilitation (including normal maintenance and repair), repair after damage, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures that have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either:
 - a. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions.
 - b. Any alteration of an "historic structure," provided that the alteration will not preclude the structure's continued designation as an "historic structure." For the purpose of this Ordinance, "historic structure" shall be as defined in 44 Code of Federal Regulations, Part 59.1.
 22. Variance - means a modification of a specific permitted development standard required in an official control including this Ordinance to allow an alternative development standard not stated as acceptable in the official control, but only as applied to a particular property for the purpose of alleviating a hardship, practical difficulty or unique circumstance as defined and elaborated upon in a community's respective planning and zoning enabling legislation.
- I. Annexations: The Flood Insurance Rate Map panels adopted by reference into Section B above may include floodplain areas that lie outside of the corporate boundaries of the City of Roseville at the time of adoption of this ordinance. If any of these floodplain land area are annexed into the City of Roseville after the date of adoption of this ordinance, the newly annexed floodplain lands shall be subject to the provisions of this ordinance immediately upon the date of annexation into the City of Roseville.

1021.03: ESTABLISHMENT OF ZONING DISTRICTS

A. Districts:

1. Floodway District: The Floodway District shall include those areas designated as Zone AE and Zone A on the Flood Insurance Rate Map panels adopted in Section B that are below the ordinary high water level as defined in Minnesota Statutes, Section 103G.005, subdivision 14.
 2. Flood Fringe District: The Flood Fringe District shall include those areas designated as Zone AE and Zone A on the Flood Insurance Rate Map panels adopted in Section B that are below the 1% annual chance flood elevation (100-year flood elevation) but above the ordinary high water level as defined in Minnesota Statutes, Section 103G.005, subdivision 14. See Section 1021.06 for procedures to determine the 1% annual chance flood elevation (100-year flood elevation).
- B. Compliance: No new structure or land shall hereafter be used and no structure shall be constructed, located, extended, converted, or structurally altered without full compliance with the terms of this Ordinance and other applicable regulations which apply to uses within the jurisdiction of this Ordinance. Within the Floodway, Flood Fringe and General Flood Plain Districts, all uses not listed as permitted uses or conditional uses in Sections 1021.04 and 1021.05 that follow, respectively, shall be prohibited. In addition, a caution is provided here that:
1. Modifications, additions, structural alterations, normal maintenance and repair, or repair after damage to existing nonconforming structures and nonconforming uses of structures or land are regulated by the general provisions of this Ordinance and specifically Section 1021.11.
 2. As-built elevations for elevated or flood proofed structures must be certified by ground surveys and flood proofing techniques must be designed and certified by a registered professional engineer or architect as specified in the general provisions of this Ordinance and specifically as stated in Section 1021.10 of this Ordinance.

1021.04: FLOODWAY DISTRICT (FW)

The permitted and conditional uses listed below are only allowable in the floodway if not prohibited by any other underlying zoning district classifications of the City of Roseville and if not prohibited by any applicable state or federal law.

A. Permitted Uses:

1. General farming, pasture, grazing, outdoor plant nurseries, horticulture, and wild crop harvesting.
2. Boat launching ramps, swimming areas, parks, wildlife and nature preserves, and fishing areas.
3. Residential lawns, gardens and play areas.

B. Standards for Floodway Permitted Uses:

1. The use shall have a low flood damage potential.
2. The use shall be permissible in the underlying zoning district if one exists.
3. The use shall not obstruct flood flows or increase flood elevations and shall not involve structures, fill, obstructions, excavations or storage of materials or equipment.

C. Conditional Uses:

1. Extraction and storage of sand, gravel, and other materials.
2. Marinas, boat rentals, docks, piers, wharves, and water control structures.
3. Railroads, streets, bridges, utility transmission lines, and pipelines.
4. Placement of fill.

D. Standards for Floodway Conditional Uses:

1. All Uses. No fill (including fill for roads and levees), deposit, obstruction, or other

use may be allowed as a conditional use that will cause any increase in the stage of the 100-year or regional flood or cause an increase in flood damages in the reach or reaches affected.

2. All floodway conditional uses shall be subject to the procedures and standards contained in Section 1021.10D of this Ordinance.
3. The conditional use shall be permissible in the underlying zoning district if one exists.
4. Fill:
 - a. Fill, dredge spoil, and all other similar materials deposited or stored in the flood plain shall be protected from erosion by vegetative cover, mulching, riprap or other acceptable method.
 - b. Dredge spoil sites and sand and gravel operations shall not be allowed in the floodway unless a long-term site development plan is submitted which includes an erosion/sedimentation prevention element to the plan.
 - c. As an alternative, and consistent with Subsection (b) immediately above, dredge spoil disposal and sand and gravel operations may allow temporary, on-site storage of fill or other materials which would have caused an increase to the stage of the 100-year or regional flood but only after the Governing Body has received an appropriate plan which assures the removal of the materials from the floodway based upon the flood warning time available. The conditional use must be title registered with the property in the Office of the County Recorder.
5. Storage of Materials and Equipment. Storage of other materials or equipment may be allowed if readily removable from the area within the time available after a flood warning and in accordance with a plan approved by the Governing Body. The storage or processing of materials that are, in time of flooding, flammable, explosive, or potentially injurious to human, animal, or plant life is prohibited.
6. Community-wide structural works for flood control intended to remove areas from the regulatory flood plain shall not be allowed in the floodway.

1021.05: FLOOD FRINGE DISTRICT (FF)

- A. Permitted Uses: Permitted uses shall be those uses of land or structures listed as permitted uses in the underlying zoning use district(s). If no pre-existing, underlying zoning use districts exist, then any residential or non residential structure or use of a structure or land shall be a permitted use in the Flood Fringe District provided such use does not constitute a public nuisance. All permitted uses shall comply with the standards for Flood Fringe District "Permitted Uses" listed in Section 1021.05B.
- B. Standards for Flood Fringe Permitted Uses:
 1. All structures, including accessory structures, must be elevated on fill so that the lowest floor including basement floor is at or above the regulatory flood protection elevation. The finished fill elevation for structures shall be no lower than one (1) foot below the regulatory flood protection elevation and the fill shall extend at such elevation at least fifteen (15) feet beyond the outside limits of the structure erected thereon.
 2. As an alternative to elevation on fill, accessory structures that constitute a minimal investment and that do not exceed 500 square feet at its largest projection may be flood proofed in accordance with the following standards:
 - a. Accessory structures shall not be designed for human habitation.
 - b. Accessory structures shall be elevated on fill or structurally dry flood proofed in accordance with the FP-1 or FP-2 flood proofing classifications in the State Building Code. As an alternative, an accessory structure may be flood proofed to

the FP-3 or FP-4 flood proofing classification in the State Building Code and, for a detached garage, the detached garage must be used solely for parking of vehicles and limited storage. Flood proofed accessory structures must meet the following additional standards:

- (1) The structure must be adequately anchored to prevent flotation, collapse or lateral movement of the structure and shall be designed to equalize hydrostatic flood forces on exterior walls;
 - (2) Any mechanical and utility equipment in a structure must be elevated to or above the regulatory flood protection elevation or properly flood proofed; and
 - (3) To allow for the equalization of hydrostatic pressure, there must be a minimum of two "automatic" openings in the outside walls of the structure having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding. There must be openings on at least two sides of the structure and the bottom of all openings must be no higher than one foot above the lowest adjacent grade to the structure. Using human intervention to open a garage door prior to flooding will not satisfy this requirement for automatic openings.
3. The storage of any materials or equipment shall be elevated on fill to the regulatory flood protection elevation.
- C. Conditional Uses: Any structure that is not elevated on fill or flood proofed in accordance with Section 1021.05B1-B2 and or any use of land that does not comply with the standards in Section 1021.05B3 shall only be allowable as a conditional use. An application for a conditional use shall be subject to the standards and criteria and evaluation procedures specified in Sections 1021.05D-E and 1021.10D of this Ordinance.
1. Standards for Flood Fringe Conditional Uses:
 - a. Alternative elevation methods other than the use of fill may be utilized to elevate a structure's lowest floor above the regulatory flood protection elevation. These alternative methods may include the use of stilts, pilings, parallel walls, etc., or above-grade, enclosed areas such as crawl spaces or tuck under garages. The base or floor of an enclosed area shall be considered above-grade and not a structure's basement or lowest floor if: 1) the enclosed area is above-grade on at least one side of the structure; 2) it is designed to internally flood and is constructed with flood resistant materials; and 3) it is used solely for parking of vehicles, building access or storage. The above-noted alternative elevation methods are subject to the following additional standards:
 - (1) Design and Certification - The structure's design and as-built condition must be certified by a registered professional engineer or architect as being in compliance with the general design standards of the State Building Code and, specifically, that all electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities must be at or above the regulatory flood protection elevation or be designed to prevent flood water from entering or accumulating within these components during times of flooding.
 - (2) Specific Standards for Above-grade, Enclosed Areas - Above-grade, fully enclosed areas such as crawl spaces or tuck under garages must be designed to internally flood and the design plans must stipulate:
 - (a) A minimum area of openings in the walls where internal flooding is to be used as a flood proofing technique. There shall be a minimum of two openings on at least two sides of the structure and the bottom of all

openings shall be no higher than one-foot above grade. The automatic openings shall have a minimum net area of not less than one square inch for every square foot of enclosed area subject to flooding unless a registered professional engineer or architect certifies that a smaller net area would suffice. The automatic openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of flood waters without any form of human intervention; and

- (b) That the enclosed area will be designed of flood resistant materials in accordance with the FP-3 or FP-4 classifications in the State Building Code and shall be used solely for building access, parking of vehicles or storage.
 - b. Basements, as defined by Section 1021.02H2 of this Ordinance, shall be subject to the following:
 - (1) Residential basement construction shall not be allowed below the regulatory flood protection elevation.
 - (2) Non-residential basements may be allowed below the regulatory flood protection elevation provided the basement is structurally dry flood proofed in accordance with Section 1021.05C1c of this Ordinance.
 - c. All areas of non residential structures including basements to be placed below the regulatory flood protection elevation shall be flood proofed in accordance with the structurally dry flood proofing classifications in the State Building Code. Structurally dry flood proofing must meet the FP-1 or FP-2 flood proofing classification in the State Building Code and this shall require making the structure watertight with the walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy. Structures flood proofed to the FP-3 or FP-4 classification shall not be permitted.
 - d. Storage of Materials and Equipment:
 - (1) The storage or processing of materials that are, in time of flooding, flammable, explosive, or potentially injurious to human, animal, or plant life is prohibited.
 - (2) Storage of other materials or equipment may be allowed if readily removable from the area within the time available after a flood warning and in accordance with a plan approved by the Governing Body.
 - e. The provisions of Section 1021.05C2 of this Ordinance shall also apply.
2. Standards for All Flood Fringe Uses:
- a. Commercial Uses - accessory land uses, such as yards, railroad tracks, and parking lots may be at elevations lower than the regulatory flood protection elevation. However, a permit for such facilities to be used by the employees or the general public shall not be granted in the absence of a flood warning system that provides adequate time for evacuation if the area would be inundated to a depth and velocity such that when multiplying the depth (in feet) times velocity (in feet per second) the product number exceeds four (4) upon occurrence of the regional flood.
 - b. Manufacturing and Industrial Uses - measures shall be taken to minimize interference with normal plant operations especially along streams having protracted flood durations. Certain accessory land uses such as yards and parking lots may be at lower elevations subject to requirements set out in Section 1021.05C2a above. In considering permit applications, due consideration shall be given to needs of an industry whose business requires

- that it be located in flood plain areas.
- c. Fill shall be properly compacted and the slopes shall be properly protected by the use of riprap, vegetative cover or other acceptable method. The Federal Emergency Management Agency (FEMA) has established criteria for removing the special flood hazard area designation for certain structures properly elevated on fill above the 100-year flood elevation - FEMA's requirements incorporate specific fill compaction and side slope protection standards for multi-structure or multi-lot developments. These standards should be investigated prior to the initiation of site preparation if a change of special flood hazard area designation will be requested.
 - d. Flood plain developments shall not adversely affect the hydraulic capacity of the channel and adjoining flood plain of any tributary watercourse or drainage system where a floodway or other encroachment limit has not been specified on the Official Zoning Map.
 - e. Standards for recreational vehicles are contained in Section 1021.09A.
 - f. All manufactured homes must be securely anchored to an adequately anchored foundation system that resists flotation, collapse and lateral movement. Methods of anchoring may include, but are not to be limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state or local anchoring requirements for resisting wind forces.

1021.06: Procedures for determining 1% annual chance flood elevations (100-YR flood elevations) in Zone A

A. Reserved for Future Use

B. Procedures for determining 1% annual chance flood elevations (100-YR flood elevations) in Zone A:

1. Upon receipt of an application for a permit or other approval within a Zone A, the Zoning Administrator will use the 1% annual chance flood elevation for that basin that has previously been determined in accordance with approved FEMA methods, if available. If the 1% annual chance flood elevation has not been previously determined, the applicant shall be required to furnish all necessary information as deemed necessary by the Zoning Administrator for the determination for the 1% annual chance flood elevation in accordance with approved FEMA methods.
2. The applicant shall be responsible to submit one copy of the above information to a designated engineer or other expert person or agency for technical assistance in determining whether the proposed use is in the Floodway or Flood Fringe District and to determine the 1% annual chance flood elevation (100-year flood elevation). Procedures consistent with Minnesota Regulations 1983, Parts 6120.5000 - 6120.6200 and 44 Code of Federal Regulations Part 65 shall be followed in this expert evaluation. The designated engineer or expert is strongly encouraged to discuss the proposed technical evaluation methodology with the respective Department of Natural Resources' Area Hydrologist prior to commencing the analysis.
3. Once the 1% annual chance flood elevation (100-year flood elevation) has been determined, the Zoning Administrator shall process the permit application consistent with the applicable provisions of Section 1021.04 and 1021.05 of this Ordinance.

1021.07: SUBDIVISIONS

A. Review Criteria: No land shall be subdivided which is unsuitable for the reason of

flooding, inadequate drainage, water supply or sewage treatment facilities. All lots within the flood plain districts shall be able to contain a building site outside of the Floodway District at or above the regulatory flood protection elevation. All subdivisions shall have water and sewage treatment facilities that comply with the provisions of this Ordinance and have road access both to the subdivision and to the individual building sites no lower than two feet below the regulatory flood protection elevation. For all subdivisions in the flood plain, the Floodway and Flood Fringe District boundaries, the regulatory flood protection elevation and the required elevation of all access roads shall be clearly labeled on all required subdivision drawings and platting documents.

- B. Procedures for determining 1% annual chance flood elevation (100-YR flood elevation) in Zone A: In a designated Zone-A area, applicants shall provide the information required in Section 1021.06B of this Ordinance to determine the 1% annual chance flood elevation (100-year flood elevation) and the regulatory flood protection elevation for the subdivision site.
- C. Removal of Special Flood Hazard Area Designation: The Federal Emergency Management Agency (FEMA) has established criteria for removing the special flood hazard area designation for certain structures properly elevated on fill above the 1% annual chance flood elevation (100-year flood elevation). FEMA's requirements incorporate specific fill compaction and side slope protection standards for multi-structure or multi-lot developments. These standards should be investigated prior to the initiation of site preparation if a change of special flood hazard area designation will be requested.

1021.08: PUBLIC UTILITIES, RAILROADS, ROADS, AND BRIDGES

- A. Public Utilities: All public utilities and facilities such as gas, electrical, sewer, and water supply systems to be located in the flood plain shall be flood proofed in accordance with the State Building Code or elevated to above the regulatory flood protection elevation.
- B. Public Transportation Facilities: Railroad tracks, roads, and bridges to be located within the flood plain shall comply with Sections 1021.04 and 1021.05 of this Ordinance. Elevation to the regulatory flood protection elevation shall be provided where failure or interruption of these transportation facilities would result in danger to the public health or safety or where such facilities are essential to the orderly functioning of the area. Minor or auxiliary roads or railroads may be constructed at a lower elevation where failure or interruption of transportation services would not endanger the public health or safety.
- C. On-Site Sewage Treatment and Water Supply Systems: Where public utilities are not provided: 1) On-site water supply systems must be designed to minimize or eliminate infiltration of flood waters into the systems; and 2) New or replacement on-site sewage treatment systems must be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters and they shall not be subject to impairment or contamination during times of flooding. Any sewage treatment system designed in accordance with the State's current statewide standards for on-site sewage treatment systems shall be determined to be in compliance with this Section.

1021.09: PLACEMENT OF RECREATIONAL VEHICLES.

- A. Recreational vehicles that do not meet the exemption criteria specified in Section 1021.09A1 below shall be subject to the provisions of this Ordinance and as specifically

spelled out in Sections 1021.09A3 and A4 below.

1. Exemption - Recreational vehicles are exempt from the provisions of this Ordinance if they are placed in any of the areas listed in Section 1021.09A2 below and further they meet the following criteria:
 - a. Have current licenses required for highway use.
 - b. Are highway ready meaning on wheels or the internal jacking system, are attached to the site only by quick disconnect type utilities commonly used in campgrounds and recreational vehicle parks and the recreational vehicle has no permanent structural type additions attached to it.
 - c. The recreational vehicle and associated use must be permissible in any pre-existing, underlying zoning use district.
2. Areas Exempted For Placement of Recreational Vehicles:
 - a. Individual lots or parcels of record.
 - b. Existing commercial recreational vehicle parks or campgrounds.
 - c. Existing condominium type associations.
3. Recreational vehicles exempted in Section 1021.09A1 lose this exemption when development occurs on the parcel exceeding \$500 for a structural addition to the recreational vehicle or exceeding \$500 for an accessory structure such as a garage or storage building. The recreational vehicle and all additions and accessory structures will then be treated as a new structure and shall be subject to the elevation/flood proofing requirements and the use of land restrictions specified in Sections 1021.04 and 1021.05 of this Ordinance. There shall be no development or improvement on the parcel or attachment to the recreational vehicle that hinders the removal of the recreational vehicle to a flood free location should flooding occur.
4. New commercial recreational vehicle parks or campgrounds and new residential type subdivisions and condominium associations and the expansion of any existing similar use exceeding five (5) units or dwelling sites shall be subject to the following:
 - a. All new or replacement vehicles and related contents that are not elevated above the regulatory flood protection elevation or are not placed over properly elevated road access in the Floodway or Flood Fringe District, as an alternative, be allowed as a conditional use if in accordance with the following provisions and the provisions of 1021.10D of the Ordinance. The applicant must submit an emergency plan for the safe evacuation of all vehicles and people during the 100 year flood. Said plan shall be prepared by a registered engineer or other qualified individual, shall demonstrate that adequate time and personnel exist to carry out the evacuation, and shall demonstrate the provisions of Section 1021.09A1 (a) and (b) of this Ordinance will be met. All attendant sewage and water facilities for new or replacement recreational vehicles must be protected or constructed so as to not be impaired or contaminated during times of flooding in accordance with Section 1021.08C of this Ordinance.

1021.10: ADMINISTRATION

- A. Community Development Department: The Community Development Department shall administer and enforce this Ordinance. If the Community Development Department finds a violation of the provisions of this Ordinance the Community Development Department shall notify the person responsible for such violation in accordance with the procedures stated in Section 1021.12 of the Ordinance.
- B. Permit Requirements:

1. Permit Required. A Permit issued by the Community Development Department in conformity with the provisions of this Ordinance shall be secured prior to the erection, addition, modification, rehabilitation (including normal maintenance and repair), or alteration of any building, structure, or portion thereof; prior to the use or change of use of a building, structure, or land; prior to the construction of a dam, fence, or on-site septic system; prior to the change or extension of a nonconforming use; prior to the repair of a structure that has been damaged by flood, fire, tornado, or any other source; and prior to the placement of fill, excavation of materials, or the storage of materials or equipment within the flood plain.
2. Application for Permit. Application for a permit shall be made in duplicate to the Community Development Department and shall include the following where applicable: plans in duplicate drawn to scale, showing the nature, location, dimensions, and elevations of the lot; existing or proposed structures, fill, or storage of materials; and the location of the foregoing in relation to the stream channel.
3. State and Federal Permits. Prior to granting a permit or processing an application for a conditional use permit or variance, the Community Development Department shall determine that the applicant has obtained all necessary state and federal permits.
4. Certificate of Zoning Compliance for a New, Altered, or Nonconforming Use. It shall be unlawful to use, occupy, or permit the use or occupancy of any building or premises or part thereof hereafter created, erected, changed, converted, altered, or enlarged in its use or structure until a certificate of zoning compliance shall have been issued by the Community Development Department stating that the use of the building or land conforms to the requirements of this Ordinance.
5. Construction and Use to be as Provided on Applications, Plans, Permits, Variances and Certificates of Zoning Compliance. Permits, conditional use permits, or certificates of zoning compliance issued on the basis of approved plans and applications authorize only the use, arrangement, and construction set forth in such approved plans and applications, and no other use, arrangement, or construction. Any use, arrangement, or construction at variance with that authorized shall be deemed a violation of this Ordinance, and punishable as provided by Section 1021.12 of this Ordinance.
6. Certification. The applicant shall be required to submit certification by a registered professional engineer, registered architect, or registered land surveyor that the finished fill and building elevations were accomplished in compliance with the provisions of this Ordinance. Flood proofing measures shall be certified by a registered professional engineer or registered architect.
7. Record of First Floor Elevation. The Community Development Department shall maintain a record of the elevation of the lowest floor (including basement) of all new structures and alterations or additions to existing structures in the flood plain. The Community Development Department shall also maintain a record of the elevation to which structures or alterations and additions to structures are flood proofed.
8. Notifications for Watercourse Alterations. The Community Development Department shall notify, in riverine situations, adjacent communities and the Commissioner of the Department of Natural Resources prior to the community authorizing any alteration or relocation of a watercourse. If the applicant has applied for a permit to work in the beds of public waters pursuant to Minnesota Statute, Chapter 103G, this shall suffice as adequate notice to the Commissioner of Natural Resources. A copy of said notification shall also be submitted to the Chicago Regional Office of the Federal Emergency Management Agency (FEMA).

9. Notification to FEMA When Physical Changes Increase or Decrease the 100-year Flood Elevation. As soon as is practicable, but not later than six (6) months after the date such supporting information becomes available, the Community Development Department shall notify the Chicago Regional Office of FEMA of the changes by submitting a copy of said technical or scientific data.
- C. Variance Board:
1. Overview: Variance applications will be reviewed by City staff and discussed in a public hearing by the Variance Board, which meets on the first Wednesday of each month, as necessary. Minnesota State Law requires that a decision be issued for each application within 60 days of the application submission date. Sixty-day extensions may be obtained if more time is needed to resolve outstanding issues.
 2. Application Deadline: Applications must be received by the close-of-business on the first Friday of each month; applications received after this date cannot be heard at the Variance Board meeting of the following month. The Variance process takes about 6 weeks from the application deadline.
 3. Submission Requirements: The attached application form must be completed and submitted with all requested materials. Failure to submit all application materials may delay the review process described below.
 4. Initial Review: Applications will be reviewed for completeness by Community Development Department staff, and a determination of completeness will be provided to the applicant in the form of a letter within about 10 days of the application submittal date. A letter in response to an *incomplete* application will identify the materials that are needed in order to complete the application; once all of the outstanding application materials are received, the 60-day action timeline will restart. A letter in response to a complete application will outline the schedule for the formal review and approval process described below.
 5. Formal Review: Variance applications may be discussed by a panel of City staff representing various departments. The members of this panel will address points of concern based on their respective professional experience; a summary of these comments will be provided to the applicant and will be reflected in the staff report presented to the Variance Board.
 6. Staff Report: Community Development staff will prepare a report summarizing the application, reviewing it against the City's Codes, Ordinances, and policies, and providing a recommendation for the Variance Board. A copy of this report, along with the relevant meeting agenda, will be provided to the applicant prior to the public hearing at the Variance Board meeting.
 7. Notice of Public Hearing:
 - a. Published and Mailed Notices: Minnesota State Law requires published notice in a City's legal newspaper a minimum of ten (10) days prior to a public hearing. City policy further requires that notices be mailed to property owners within 500 feet of the affected property. Both of these notices are prepared and sent by the City of Roseville. A copy of the proposed variance application shall be mailed sufficiently in advance so that the Commissioner of Natural Resources will receive at least 10-days notice of the public hearing.
 - b. Posted Signs: Variance applications also require a "Notice of Land Use Application" sign to be posted on the subject property by the applicant/property owner at least ten (10) days prior to the date of the public hearing; larger sites may require additional signs. These signs may be obtained at the Community Development counter in City Hall; to ensure that it is ready, please call 651-792-7005 to arrange a time to pick up the sign.
 8. Variance Board Meeting: Applicants are encouraged to attend and participate in the

public hearing in order to respond to questions from the Variance Board and/or members of the public. The public hearing will be held in the City Hall Council Chambers, which is equipped to display drawings, photographs, video, or other proposed variance application. Because the hearing will be televised and recorded, applicants should be prepared to speak into the microphone at the presentation table.

9. At the Public Hearing: The Variance Board Chairperson will call the meeting to order at the appointed time, Commissioners and representatives of the City in attendance will be introduced, and the minutes of the previous meeting will be reviewed. Items requiring public hearings are next. The Chairperson will introduce the application and City staff will review the issues and recommendations detailed in the staff report. Members of the Variance Board may ask questions about the application to be answered by City staff and the applicant. Then members of the public will be invited to ask questions about the application and to make comments about the proposal. Once the public comment period has concluded, the Chairperson will close the public hearing, and the Board Members will discuss the application and take action.
10. Variance Board Action: The Variance Board has the authority to approve or deny an application and its decision is final. The Variance Board will provide the rationale for its decision and adopt a motion approving or denying the variance request. If the decision is not appealed within the time allowed, the variance becomes effective, and any necessary building permits may be issued; at this time the Variance Board resolution will be sent to Ramsey County to be recorded against the property. The Variance Board decision shall not be contrary to the public interest and only for those circumstances such as hardship, practical difficulties or circumstances unique to the property under consideration, as provided for in the respective enabling legislation for planning and zoning for cities or counties as appropriate. A copy of all decisions granting variances shall be forwarded to the Commissioner of Natural Resources, within 10-days of such action. No variance shall have the effect of allowing in any district uses prohibited in that district, permit a lower degree of flood protection than the regulatory flood protection elevation for the particular area, or permit standards lower than those required by state law. The following additional variance criteria of the Federal Emergency Management Agency must be satisfied:
 - a. Variances shall not be issued by a community within any designated regulatory floodway if any increase in flood levels during the base flood discharge would result.
 - b. Variances shall only be issued by a community upon (i) a showing of good and sufficient cause, (ii) a determination that failure to grant the variance would result in exceptional hardship to the applicant, and (iii) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
 - c. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
11. Appeals: The decision of the Variance Board may be appealed by the applicant or by any other Roseville property owner within 10 days of the decision. Appeals are heard by the City Council which acts as the Board of Zoning Adjustments and Appeals. An appeal is a matter of public record, but it does not require a public hearing and no new information will be reviewed as part of the appeal; the Board of Zoning Adjustments and Appeals will simply review the Variance Board's

decision-making process to determine whether it complied with City Ordinances and State Statutes.

12. Flood Insurance Notice and Record Keeping. The Community Development Department shall notify the applicant for a variance that: 1) The issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance up to amounts as high as \$25 for \$100 of insurance coverage and 2) Such construction below the 100-year or regional flood level increases risks to life and property. Such notification shall be maintained with a record of all variance actions. A community shall maintain a record of all variance actions, including justification for their issuance, and report such variances issued in its annual or biennial report submitted to the Administrator of the National Flood Insurance Program.

D. Conditional Use:

1. Overview: Conditional Use applications will be reviewed by City staff and discussed in a public hearing by the Planning Commission, which meets on the first Wednesday of each month, before a decision to approve or deny the application is made by the City Council at its regular meeting on the fourth Monday later that month.
2. Application Deadline: Applications must be received by the close-of-business on the first Friday of each month; applications received after this date cannot be heard at the Planning Commission meeting of the following month. Minnesota State Law requires that a decision be issued for each application within 60 days of the submission of a complete application.
3. Submission Requirements: The attached application form must be completed and submitted with all requested materials. Failure to submit all application materials may delay the review process described below.
4. Escrow Deposit: Because commercial uses can involve a significant amount of research and analysis by staff and/or outside consultants, the applicant must deposit \$1,000 in escrow in addition to the commercial application fee for a Conditional Use. If the escrow is drawn down to \$500, the applicant will be required to replenish the account; unused escrow funds will be returned to the applicant at the conclusion of the Conditional Use process.
5. Formal Review: Conditional Use applications may be discussed by a panel of City staff representing various departments. The members of this panel will address points of concern based on their respective professional experience; a summary of these comments will be provided to the applicant and will be reflected in the staff report presented to the Planning Commission.
6. Staff Report: Community Development staff will prepare a report summarizing the application, reviewing it against the City's Codes, Ordinances, and policies, and providing a recommendation for the Planning Commission. A copy of this report, along with the relevant meeting agenda, will be provided to the applicant prior to the public hearing at the Planning Commission meeting.
7. Notice of Public Hearing:
 - a. Published and Mailed Notices: Minnesota State Law requires published notice in a City's legal newspaper a minimum of ten (10) days prior to a public hearing. City policy further requires that notices be mailed to property owners within 500 feet of the affected property. Both of these notices are prepared and sent by the City of Roseville. A copy of the proposed conditional use application shall be mailed sufficiently in advance so that the Commissioner of Natural Resources will receive at least 10-days notice of the public hearing.
 - b. Posted Signs: Conditional Use applications also require a "Notice of Land Use

Application” sign to be posted on the subject property by the applicant/property owner at least ten (10) days prior to the date of the public hearing; larger sites may require additional signs. These signs may be obtained at the Community Development counter in City Hall; to ensure that it is ready, please call 651-792-7005 to arrange a time to pick up the sign.

8. Planning Commission Meeting: Applicants are encouraged to attend and participate in the public hearing in order to respond to questions from the Planning Commission and/or members of the public. The public hearing will be held in the City Hall Council Chambers, which is equipped to display drawings, photographs, video, or other materials. Because the hearing will be televised and recorded, applicants should be prepared to speak into the microphone at the presentation table.
9. At the Public Hearing: The Planning Commission Chairperson will call the meeting to order at the appointed time, Commissioners and representatives of the City in attendance will be introduced, and the minutes of the previous meeting will be reviewed. Items requiring public hearings are next. The Chairperson will introduce the application and City staff will review the issues and recommendations detailed in the staff report. Members of the Planning Commission may ask questions about the application to be answered by City staff and the applicant. Then members of the public will be invited to ask questions about the application and to make comments about the proposal. Once the public comment period has concluded, the Chairperson will close the public hearing, and the Commissioners will discuss the application and take action.
10. Planning Commission Action: The Planning Commission does not approve or deny an application; instead, it makes a recommendation of approval or denial to the City Council and provides the rationale for its recommendation. The application, along with the recommendation of the Planning Commission, is then brought to the City Council which has authority to approve or deny the application.
11. City Council: At the scheduled time, the Mayor will call the meeting to order and it will progress similar to the Planning Commission meeting. Based on the recommendation from the Planning Commission in addition to its own review, the City Council will approve or deny the proposed Conditional Use as an item on the “Consent Agenda”. At their discretion, however, the City Council may choose to review the application in greater detail and take public comment, similar to the public hearing, before ultimately approving or denying the request. A copy of all decisions granting conditional use permits shall be forwarded by mail to the Commissioner of Natural Resources within ten (10) days of such action.
12. Procedures for Approving a Conditional Use: The following procedures shall be followed when considering/approving a Conditional Use within all Flood Plain Districts.
 - a. Require the applicant to furnish such of the following information and additional information as deemed necessary by the Roseville Community Development Department for determining the suitability of the particular site for the proposed use:
 - (1) Plans in triplicate drawn to scale showing the nature, location, dimensions, and elevation of the lot, existing or proposed structures, fill, storage of materials, flood proofing measures, and the relationship of the above to the location of the stream channel; and
 - (2) Specifications for building construction and materials, flood proofing, filling, dredging, grading, channel improvement, storage of materials, water supply and sanitary facilities.
 - b. Transmit one copy of the information described in subsection “a” to a

- designated engineer or other expert person or agency for technical assistance, where necessary, in evaluating the proposed project in relation to flood heights and velocities, the seriousness of flood damage to the use, the adequacy of the plans for protection, and other technical matters.
- c. Based upon the technical evaluation of the designated engineer or expert, the Community Development Department shall determine the specific flood hazard at the site and evaluate the suitability of the proposed use in relation to the flood hazard.
13. Factors upon which the Conditional Use shall be based: In approving a Conditional Use the City shall consider all relevant factors specified in other sections of this Ordinance, and:
 - a. The danger to life and property due to increased flood heights or velocities caused by encroachments.
 - b. The danger that materials may be swept onto other lands or downstream to the injury of others or they may block bridges, culverts or other hydraulic structures.
 - c. The proposed water supply and sanitation systems and the ability of these systems to prevent disease, contamination, and unsanitary conditions.
 - d. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner.
 - e. The importance of the services provided by the proposed facility to the community.
 - f. The requirements of the facility for a waterfront location.
 - g. The availability of alternative locations not subject to flooding for the proposed use.
 - h. The compatibility of the proposed use with existing development and development anticipated in the foreseeable future.
 - i. The relationship of the proposed use to the comprehensive plan and flood plain management program for the area.
 - j. The safety of access to the property in times of flood for ordinary and emergency vehicles.
 - k. The expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters expected at the site.
 - l. Such other factors which are relevant to the purposes of this Ordinance.
 14. Conditions Attached to Conditional Use Permits. Upon consideration of the factors listed above and the purpose of this Ordinance, the City shall attach such conditions to the granting of conditional use permits as it deems necessary to fulfill the purposes of this Ordinance. Such conditions may include, but are not limited to, the following:
 - a. Modification of waste treatment and water supply facilities.
 - b. Limitations on period of use, occupancy, and operation.
 - c. Imposition of operational controls, sureties, and deed restrictions.
 - d. Requirements for construction of channel modifications, compensatory storage, dikes, levees, and other protective measures.
 - e. Flood proofing measures, in accordance with the State Building Code and this Ordinance. The applicant shall submit a plan or document certified by a registered professional engineer or architect that the flood proofing measures are consistent with the regulatory flood protection elevation and associated flood factors for the particular area.

1021.11: NONCONFORMITIES

- A. A structure or the use of a structure or premises which was lawful before the passage or amendment of this Ordinance but which is not in conformity with the provisions of this Ordinance may be continued subject to the following conditions. Historic structures, as defined in Section 1021.02H21 of this Ordinance, shall be subject to the provisions of Sections 1021.11A1 – A5 of this Ordinance.
1. No such use shall be expanded, changed, enlarged, or altered in a way that increases its nonconformity.
 2. Any structural alteration or addition to a nonconforming structure or nonconforming use which would result in increasing the flood damage potential of that structure or use shall be protected to the Regulatory Flood Protection Elevation in accordance with any of the elevation on fill or flood proofing techniques (i.e., FP-1 thru FP-4 floodproofing classifications) allowable in the State Building Code, except as further restricted in 1021.11A3-A6 below.
 3. The cost of all structural alterations or additions to any nonconforming structure over the life of the structure shall not exceed 50 percent of the market value of the structure unless the conditions of this Section are satisfied. The cost of all structural alterations and additions must include all costs such as construction materials and a reasonable cost placed on all manpower or labor. If the cost of all previous and proposed alterations and additions exceeds 50 percent of the market value of the structure, then the structure must meet the standards of Section 1021.04 or 1021.05 of this Ordinance for new structures depending upon whether the structure is in the Floodway or Flood Fringe District, respectively.
 4. If any nonconforming use is discontinued for 12 consecutive months, any future use of the building premises shall conform to this Ordinance. The Assessor shall notify the Zoning Administrator in writing of instances of nonconforming uses that have been discontinued for a period of 12 months.
 5. If any nonconforming use or structure is substantially damaged, as defined in Section 1021.02H20 of this Ordinance, it shall not be reconstructed except in conformity with the provisions of this Ordinance. The applicable provisions for establishing new uses or new structures in Sections 1021.04 and 1021.05 will apply depending upon whether the use or structure is in the Floodway, Flood Fringe or General Flood Plain District, respectively.
 6. If a substantial improvement occurs, as defined in Section 1021.02H21 of this Ordinance, from any combination of a building addition to the outside dimensions of the existing building or a rehabilitation, reconstruction, alteration, or other improvement to the inside dimensions of an existing nonconforming building, then the building addition and the existing nonconforming building must meet the requirements of Section 1021.04 or 1021.05 of this Ordinance for new structures, depending upon whether the structure is in the Floodway or Flood Fringe District, respectively.

1021.12: PENALTIES FOR VIOLATION

- A. Violation of the provisions of this Ordinance or failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with grants of variances or conditional uses) shall constitute a misdemeanor and shall be punishable as defined by law.
- B. Nothing herein contained shall prevent the City of Roseville from taking such other lawful action as is necessary to prevent or remedy any violation. Such actions may include but are not limited to:
1. In responding to a suspected Ordinance violation, the Zoning Administrator and

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

2. When an Ordinance violation is either discovered by or brought to the attention of the Zoning Administrator, the Zoning Administrator shall immediately investigate the situation and document the nature and extent of the violation of the official control. As soon as is reasonably possible, this information will be submitted to the appropriate Department of Natural Resources' and Federal Emergency Management Agency Regional Office along with the Community's plan of action to correct the violation to the degree possible.
3. The Zoning Administrator shall notify the suspected party of the requirements of this Ordinance and all other official controls and the nature and extent of the suspected violation of these controls. If the structure and/or use is under construction or development, the Zoning Administrator may order the construction or development immediately halted until a proper permit or approval is granted by the Community. If the construction or development is already completed, then the Zoning Administrator may either: (1) issue an order identifying the corrective actions that must be made within a specified time period to bring the use or structure into compliance with the official controls; or (2) notify the responsible party to apply for an after-the-fact permit/development approval within a specified period of time not to exceed 30-days.
4. If the responsible party does not appropriately respond to the Zoning Administrator within the specified period of time, each additional day that lapses shall constitute an additional violation of this Ordinance and shall be prosecuted accordingly. The Zoning Administrator shall also upon the lapse of the specified response period notify the landowner to restore the land to the condition which existed prior to the violation of this Ordinance.

1021.13: AMENDMENTS

- A. The flood plain designation on the Official Zoning Map shall not be removed from flood plain areas unless it can be shown that the designation is in error or that the area has been filled to or above the elevation of the regulatory flood protection elevation and is contiguous to lands outside the flood plain. Special exceptions to this rule may be permitted by the Commissioner of Natural Resources if he determines that, through other measures, lands are adequately protected for the intended use.
- B. All amendments to this Ordinance, including amendments to the Official Zoning Map, must be submitted to and approved by the Commissioner of Natural Resources prior to adoption. Changes in the Official Zoning Map must meet the Federal Emergency Management Agency's (FEMA) Technical Conditions and Criteria and must receive prior FEMA approval before adoption. The Commissioner of Natural Resources must be given 10-days written notice of all hearings to consider an amendment to this Ordinance and said notice shall include a draft of the Ordinance amendment or technical study under consideration.

(Ord. 1394, 5-17-2010)

Appendix D

SWPPP



City of Roseville, Minnesota

**Stormwater Pollution Prevention Plan
(SWPPP)**

Roseville CSWMP 2017

2016 (January 01, 2016 to December 31, 2016)

This program consists of the following 9 Minimum Control Measure(s).

1. MCM 1: Public Education and Outreach
2. MCM 2: Public Participation/ Involvement
3. MCM 3: Illicit Discharge Detection and Elimination (IDDE)
4. MCM 4: Construction Site Stormwater Runoff Control
5. MCM 5: Post-Construction Stormwater Management
6. MCM 6: Pollution Prevention/ Good Housekeeping for Municipal Operations
7. Compliance Schedule for an Approved TMDL with an Applicable WLA
8. SOP's & ERP's
9. Completed MPCA Annual Report Form

1 MCM 1: Public Education and Outreach

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description:

New permittees shall develop and implement, and **existing permittees** shall revise their current program, as necessary, and continue to implement, a public education program to distribute educational materials or equivalent outreach that informs the public of the impact **stormwater** discharges have on water bodies and that includes actions citizens, businesses, and other local organizations can take to **reduce** the discharge of pollutants to **stormwater**. The program shall also include:

a. Distribution of educational materials or equivalent outreach focused on:

(1) Specifically selected **stormwater**-related issue(s) of high priority to the **permittee** to be emphasized during this permit term (e.g., specific **TMDL** reduction targets, changing local business practices, promoting adoption of residential **BMPs**, lake improvements through lake associations, responsible management of pet waste, household chemicals; yard waste, deicing materials, etc.)

(2) Illicit discharge recognition and reporting **illicit discharges** to the **permittee**

b. An implementation plan that consists of the following:

(1) Target audience(s), including measurable goals for each audience

(2) Responsible **Person(s)** in charge of overall plan implementation

(3) Specific activities and schedules to reach measurable goals for each target audience

(4) A description of any coordination with and/or use of other **stormwater** education and outreach programs being conducted by other entities, if applicable

(5) Annual evaluation to measure the extent to which measurable goals for each target audience are attained

c. Documentation of the following information:

(1) A description of any specific **stormwater**-related issues identified by the **permittee** under Part III.D.1.a(1)

(2) All information required under Part III.D.1.b

(3) Any modifications made to the program as a result of the annual evaluation under Part III.D.1.b(5)

(4) Activities held, including dates, to reach measurable goals

(5) Quantities and descriptions of educational materials distributed, including dates distributed

Best Management Practices

1.1 Educational Information Distribution and Outreach Program

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Required: Yes

Description

Develop and maintain a public education program to distribute educational materials or equivalent outreach to inform the public of the impact stormwater discharges have on water bodies. The program will advise the public of actions citizens, businesses and other local organizations can take to reduce the discharge of pollutants to stormwater.

Include educational materials that focus on specifically selected stormwater issues of high priority to the permittee, such as specific TMDL reduction targets, changing local business practices, promoting adoption of residential BMPs, lake improvements through lake associations, and responsible management of pet waste, household chemicals, yard waste, deicing materials, etc. Include efforts to educate the public to recognize illicit discharges in the MS4 and to report illicit discharges to the permittee.

Address the following elements in the program:

1. Identify target audiences with measurable stormwater education goals specific to each audience.
2. Identify the person or persons in charge of overall plan implementation.
3. Describe specific activities and schedules planned to meet measurable goals for each target audience.
4. Describe coordination with or use of other stormwater education and outreach programs being conducted by other entities as applicable.
5. Complete an annual evaluation to measure the extent to which measurable goals for each target audience are attained.
6. Describe each completed activity by date, including quantities and descriptions of educational materials distributed.

Goals

1.1.1 Develop and Maintain an Implementation Plan

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

The City shall develop a written public education and outreach implementation plan. This plan shall:

1. Identify high priority stormwater related issues to be emphasized during the permit term.
2. Cover illicit discharge recognition and reporting of illicit discharges to the city.
For each identified stormwater related issue the written plan shall document the following:
 1. Target audiences with measurable stormwater education goals specific to each audience.
 2. Specific activities and schedules planned to meet measurable goals for each target audience.
 3. Describe coordination with or use of other stormwater education and outreach programs being conducted by other entities as applicable.
 4. Describe each completed activity by date, including quantities and descriptions of educational materials distributed.

Planned: 2016 2017

Complete: 2016 2017

Activity Date	Name	Description
02/01/2016	2016 - Education Plan	For 2016 the City choose to cover a variety of topics related to stormwater management, water quality, and illicit discharge.
12/31/2016	2017 - Education Plan	The Education Plan for 2017 is attached.

1.1.2 Conduct Annual Review

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

The public education and outreach implementation plan shall be reviewed annually. This review the work done throughout the year to measure the extent to which the measurable goals for each target audience were attained.

Modification will be made to the implementation plan as a result of the annual evaluation review.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
12/31/2016	2016 - Conduct annual review of Education Plan	For 2016 the City choose to cover a variety of topics related to stormwater management, water quality, deicing materials, and illicit discharge. At the end of 2016 as part of the annual review it was decided to focus on Stormwater Management for 2017.

1.2 Conduct Public Education and Outreach Activities

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Required: Yes

Description

Conduct the activities described in the stormwater Public Education and Outreach program for the identified target audiences.

Goals

1.2.1 Stormwater Brochures

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

Prepare and maintain brochures for distribution or publication to address the specific stormwater related issues as identified in the plan. Review the materials annually and update as needed to support program goals and permit requirements.

Upload or link to copies of stormwater related brochures available and distributed each reporting period to document activity in support of this goal.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
12/31/2016	2016 - Distribute stormwater literature	The City distributes stormwater literature to residents, businesses, developers, contractors, churches, and schools. A list of brochures available at information kiosks at City Hall and the Nature Center. An Illicit Discharge brochure was created in 2015/6 and is available at City Hall, along with a brochure for deicing materials.

1.2.2 Stormwater Education Website

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

Develop and maintain relevant stormwater education information on the MS4's public website, including information on general stormwater management topics and information specific to stormwater management issues within the MS4.

Provide a list of information published on the website as described above through each reporting period and a link to the current website URL.

Planned: 2016
Complete: 2016

Activity Date	Name	Description
12/31/2016	2016 - Stormwater education website	The city's stormwater webpage is at: http://www.cityofroseville.com/752/Stormwater. It includes sections on: • MS4 & SWPPP • Cost Share & Grants for property owners • Water Quality • Ordinance and Standards The city's Illicit Discharge webpage is at: http://www.cityofroseville.com/2924/Illicit-Discharge. It includes sections on: • Illicit Discharge Overview • Sources of Illicit Discharge • Illicit Discharge Brochure

1.2.3 Newsletter Articles

Responsible Staff / Position: Carolyn Curti
Communication Specialist
651-792-7026

Description

Provide seasonally relevant stormwater education information in newsletter format for periodic publication to address the specific stormwater related issues as identified in the plan.

Upload a copy of each article published in the MS4's newsletter, including the date of publication and general distribution.

Planned: 2016
Complete: 2016

Activity Date	Name	Description
12/01/2016	2016 - Newsletter articles	The Roseville City Newsletter is distributed to all residents every two months. It includes information on a variety of subjects that are of interest to the local population, including lawn care, recycling, fall litter pickup schedules, street sweeping schedules, ordinance changes, volunteer opportunities, phone number to call in for complaints and other storm water related information.

1.2.4 Public Works Environment and Transportation Commission

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

Conduct and televise regular public meeting of the PWETC. For each reporting period document the total number of PWETC meetings, the number of meetings that were related to stormwater issues, and include attachments as necessary.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
04/26/2016	Stormwater Topic	MS4 Updates
05/24/2016		MS4 & SWPPP Annual Meeting
06/28/2016		Stormwater Impact Fund
08/23/2016		CSWMP Update
10/25/2016		CSWMP Update

1.2.5 Programs, Adverts, & Projects

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

Conduct stormwater related programs, adverts, and projects as identified in the public education and outreach implementation plan. This also include collaborative projects with outside agencies or groups such as activities conducted by/with watershed districts.

For each activity conducted during each reporting period document the date, name or type of activity, topic presented, and approximate number of participants. Include a copy of presentations or other documents available.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
12/31/2016	2016 - Present programs	The City annually holds Roseville U Every year the City has a series of classes where City residents are invited to take tours of the facility, meet staff and ask questions. These classes include presentations and special displays related to matters of interest to residents, including storm water issues. On occasion the City may invite a storm water professional to make a presentation.

1.2.6 Collaborative Support**Responsible Staff / Position:**

Ryan Johnson
Environmental Specialist
651-792-7049

Description

Collaborate with other entities to meet the SWPPP's stormwater education and outreach goals, including local and regional non-profit/ environmental/ community groups.

Report collaboration efforts each reporting period, including the name and description of each group, and collaborative efforts completed including a summary of educational materials or information provided, date conducted and estimated number of participants for each activity.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
12/31/2016	2016 - Collaborative support	Roseville partnered with Ramsey-Washington Metro Watershed District (RWMWD) on education and outreach for schools, families and adults. Programs included: • 6/2/16 – Waterfest, 590+ participants, RWMWD's community event to educate people about watershed issues and enjoy water activities

2 MCM 2: Public Participation/ Involvement

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description:

a. **New permittees** shall develop and implement, and **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**. The **permittee** shall:

(1) Provide a minimum of one (1) opportunity annually for the public to provide input on the adequacy of the **SWPPP**. Public meetings can be conducted to satisfy this requirement provided appropriate local public notice requirements are followed and opportunity to review and comment on the **SWPPP** is provided.

(2) Provide access to the **SWPPP** document, Annual Reports, and other documentation that supports or describes the **SWPPP** (e.g., Regulatory Mechanism(s), etc.) for public review, upon request. All public data requests are subject to the Minnesota Government Data Practices Act, Minn. Stat. 13.

(3) Consider public input, oral and written, submitted by the public to the **permittee**, regarding the **SWPPP**.

b. Document the following information:

(1) All relevant written input submitted by **persons** regarding the **SWPPP**.

(2) All responses from the **permittee** to written input received regarding the **SWPPP**, including any modifications made to the **SWPPP** as a result of the written input received

(3) Date(s) and location(s) of events held for purposes of compliance with this requirement

(4) Notices provided to the public of any events scheduled to meet this requirement, including any electronic correspondence (e.g., website, e-mail distribution lists, notices, etc.)

Best Management Practices

2.1 Public Meeting - SWPPP Input

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Required: Yes

Description

Conduct an annual public meeting for the public to provide input on the adequacy of the SWPPP. Follow local public notice requirements and provide an opportunity to review and comment on the SWPPP. Review all input received through the meeting for consideration of modification of the SWPPP.

Goals

2.1.1 Annual Public Meeting Notice

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

Provide notice to the public of any events scheduled to provide an opportunity for public to provide input on the adequacy of the SWPPP.

Provide a copy or records of each type of notice published or distributed for public meetings held as required for each reporting period.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

2.1.2 Conduct Public Meeting

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

Conduct (at least) one public meeting annually as an opportunity for the public to provide input on the adequacy of the SWPPP.

Document all public meetings each reporting period, including the date and venue of the meeting, a copy of the agenda and description of any distributed materials and posted exhibits, the number of participants. Also include a copy or summary of verbal input and copies of written feedback submitted by the public.

Activity Date	Name	Description
05/24/2016	Annual Meeting	Hold annual Public Meeting for MS4/SWPPP

2.2 Public Access to SWPPP Documents

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Required: Yes

Description

Provide access to the SWPPP document, Annual Reports, and other documentation that supports or describes the SWPPP for public review, upon request. All public data requests are subject to the Minnesota Government Data Practices Act, Minn. Statute Section 13.

Goals

2.2.1 Access to SWPPP Documents

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

Provide public access to the SWPPP and related documents including the SWPPP document, Annual Reports and related documents (regulatory mechanism, annual budgets, etc.) through the MS4 website. Printed copies will be provided as requested and will be available for pickup at the Engineering office.

Provide a copy or hyperlinks to the SWPPP and related documents described above for each reporting period.

<http://www.cityofroseville.com/674/SWPPP-Stormwater-Pollution-Prevent-Plan>

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

2.3 Public Input Review and Consideration

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Required: Yes

Description

Consider public input, oral and written, submitted by the public to the permittee, regarding the SWPPP. Evaluate the input and consider any modifications to the SWPPP as a result of the written input received.

Goals

2.3.1 Consider Public Input

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

Collect and review all public input for consideration of potential modification of the SWPPP, including written input and records of verbal feedback submitted by the public regarding the SWPPP. Identify any modification of the SWPPP resulting from the public input.

Provide a summary of all public input regarding the SWPPP collected each reporting period, including description of any resulting SWPPP modifications.

Activity Date	Name	Description
None		

3 MCM 3: Illicit Discharge Detection and Elimination (IDDE)

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description:

New permittees shall develop, implement, and enforce, and **existing permittees** shall revise their current program as necessary, and continue to implement and enforce, a program to detect and eliminate **illicit discharges** into the **small MS4**. The IDDE program shall consist of the following:

- a. Map of the **small MS4** as required by Part III.C.1.
- b. Regulatory Mechanism(s) that effectively prohibits **non-stormwater discharges** into the **small MS4**, except those **non-stormwater discharges** authorized under Part I.B.1.
- c. Incorporation of **illicit discharge** detection into all inspection and maintenance activities' conducted under Part III.D.6.e and f. Where feasible, **illicit discharge** inspections shall be conducted during dry-weather conditions (e.g., periods of 72 or more hours of no precipitation).
- d. Detecting and tracking the source of **illicit discharges** using visual inspections. The **permittee** may also include the use of mobile cameras, collecting and analyzing water samples, and/or other detailed inspection procedures that may be effective investigative tools.
- e. Training of all field staff, in accordance with the requirements of Part III.D.6.g(2), in **illicit discharge** recognition (including conditions which could cause **illicit discharges**), and reporting **illicit discharges** for further investigation.
- f. Identification of priority areas likely to have **illicit discharges**, including at a minimum, evaluating land uses 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**. Based on this evaluation, the **permittee** shall conduct additional **illicit discharge** inspections in those areas identified as having a higher likelihood for **illicit discharges**.
- g. For timely response to known, suspected, and reported **illicit discharges**:
 - (1) Procedures for investigating, locating, and eliminating the source of **illicit discharges**.
 - (2) Procedures for responding to spills, including emergency response procedures to prevent spills from entering the **small MS4**. The procedures shall also include the immediate notification of the Minnesota Department of Public Safety Duty Officer at 1-800-422-0798 (toll free) or 651-649-5451 (Metro area), if the source of the **illicit discharge** is a spill or leak as defined in Minn. Stat. 115.061.
 - (3) When the source of the **illicit discharge** is found, ERPs required by Part III.B (if necessary) to eliminate the **illicit discharge** and require any needed corrective action(s).
- h. Documentation of the following information:
 - (1) Date(s) and location(s) of IDDE inspections conducted in accordance with Part III.D.3.c and f
 - (2) Reports of alleged **illicit discharges** received, including date(s) of the report(s), and any follow-up action(s) taken by the **permittee**

(3) Date(s) of discovery of all illicit discharges

(4) Identification of outfalls, or other areas, where illicit discharges have been discovered

(5) Sources (including a description and the responsible party) of illicit discharges (if known)

(6) Action(s) taken by the permittee, including date(s), to address discovered illicit discharges

Best Management Practices

3.1 Regulatory Mechanism - IDDE Responsible

Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Required: Yes

Description

Develop, maintain and enforce a regulatory mechanism that effectively prohibits non-stormwater discharges into the small MS4, except those non-stormwater discharges authorized under part I.B.1 of the NPDES permit.

Goals

3.1.1 IDDE Regulatory Mechanism

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

The City of Roseville has developed and adopted a regulatory mechanism to effectively prohibit non-stormwater discharges into the small MS4 as required by the NPDES permit. The following link will direct you to Roseville's City Code that contains adopted IDDE regulatory mechanism 803.03:

<http://www.cityofroseville.com/DocumentCenter/View/20307>

Conduct an annual review of the IDDE regulatory mechanism and related policies and procedures. Identify any need for revisions to improve the regulatory mechanism effectiveness.

Summarize the results of the review and described any necessary changes, including specific revisions required.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

3.2 Storm Sewer System Map

Responsible Staff / Position: Jolinda Stapleton
GIS Coordinator
651-792-7044

Required: Yes

Description

Develop and maintain a storm sewer system map of the **small MS4** (as required by Part III.C.1) that depicts the following:

- a. 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
- b. Outfalls, including a unique identification (ID) number assigned by the permittee, and an associated geographic coordinate
- c. Structural stormwater BMPs that are part of the permittee's small MS4
- d. All receiving waters

The City shall maintain the storm sewer system map and review it on annual basis for each reporting period.

Goals

3.2.1 Annual Update Storm - Sewer System Map

Responsible Staff / Position: Jolinda Stapleton
GIS Coordinator
651-792-7044

Description

Review and update the storm sewer system map annually to reflect changes in the storm sewer system, outfalls, structural stormwater BMPs and receiving waters.

Provide a narrative summary of storm sewer system map updates by listing the projects with a general description of changes.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

3.3 Illicit Discharge Inspection and Reporting

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Required: Yes

Description

Incorporate illicit discharge detection into all inspection and maintenance activities conducted under Part III.D.6.e and f. (Where feasible) Conduct illicit discharge inspections during dry-weather conditions.

Investigate and document all reported cases of illicit discharge reported to the City of Roseville. Documentation

shall include the following information:

(1) Date(s) and location(s) of IDDE inspections conducted in accordance with Part III.D.3.c and f

(2) Reports of alleged **illicit discharges** received, including date(s) of the report(s), and any follow-up action(s) taken by the **permittee**

(3) Date(s) of discovery of all **illicit discharges**

(4) Identification of **outfalls**, or other areas, where **illicit discharges** have been discovered

(5) Sources (including a description and the responsible party) of **illicit discharges** (if known)

(6) Action(s) taken by the **permittee**, including date(s), to address discovered **illicit discharges**

Goals

3.3.1 Illicit Discharge Inspection and Reporting

Responsible Staff / Position: Josh Dix
Street Maintenance Foreman
651-792-7058

Description

City staff are instructed to include identification of potential illicit discharges in all routine inspections of structural stormwater BMPs, ponds, outfalls, stockpiles, storage and material handling areas conducted during periods of dry weather.

The City shall investigate, report, document, and enforce all illicit discharges reported to the City by following the City of Roseville MS4 SOPs and ERPs.

Documentation of all potential and confirmed illicit discharges identified as part of routine inspections and all cases reported to the City by following the City of Roseville MS4 SOPs and ERPs shall include the following:

1. Name of the person responsible for violating the terms and conditions of the permittee's Regulatory Mechanism(s)
2. Date(s) and location(s) of the observed violation(s)
3. Description of the violation(s), including reference(s) to relevant Regulatory Mechanism(s)
4. Corrective action(s) (including completion schedule) issued by the permittee
5. Date(s) and type(s) of enforcement used to compel compliance (e.g., written notice, citation, stop work order, withholding of local authorizations, etc.)
6. Referrals to other regulatory organizations (if any)
7. Date(s) violation(s) resolved

Attach spread sheet showing the above data for Illicit Discharge event that takes place during each report period.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

3.4 Field Staff Training - Illicit Discharge Recognition and Reporting

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Required: Yes

Description

Provide training for all field staff in illicit discharge recognition and reporting for further investigation. See Part III.D.6.g(2).

Goals

3.4.1 Municipal Employee Training - Illicit Discharge Identification

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

Provide illicit discharge identification and elimination training for municipal employees including instruction on what illicit discharge is, why it is important to watch for, proper notification procedures, and discharge response procedures.

Provide a summary of IDDE training provided each reporting period, including a summary of training program content, training dates and locations, list of participants and training program source.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
01/20/2016	2016 Illicit Discharge Training	The 2016 Illicit Discharge Training was conducted as part of the city's Mandatory AWARE Training held in the Fire Station. Employees were given a general introduction to what is an illicit discharge, adopted Standard Operation Procedures (SOPS) & Enforcement Response Procedures (ERPS), and main point of contact if they witness or are contacted about a reported illicit discharge.

3.5 Identify and Inspect Priority Areas for Potential Illicit Discharge

Responsible Staff / Position: Josh Dix
Streets Foreman
651-792-7058

Required: Yes

Description

Identify priority areas likely to have illicit discharges through evaluation of past and present land uses associated with business/ industrial activity, areas where illicit discharges have been identified in the past and areas with past or present storage of large quantities of significant or hazardous materials.

Conduct additional illicit discharge inspections in those areas identified as described above.

Goals

3.5.1 Illicit Discharge Inspection Priority Areas

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

Develop and maintain a list of priority areas likely to have illicit discharges based on past illicit discharge information and local municipal employee knowledge. Review and update the list annually.

Provide a copy of or link to a list of identified priority area list each reporting period.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

3.5.2 Inspect Priority Areas for Illicit Discharge

Responsible Staff / Position: Josh Dix
Streets Foreman
651-792-7058

Description

Inspect priority areas identified as likely to have illicit discharges.

For areas identified as priority areas provide a summary of inspections completed and the results for each reporting period. Include a list of any illicit discharges identified in the priority areas with the status of resolution of the discharge.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

3.6 Illicit Discharge SOPs & ERPs Responsible

Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Required: Yes

Description

Develop, implement and maintain standard operating procedures (SOPs) and enforcement response procedures (ERPs) for known, suspected and reported illicit discharges as described by the NPDES permit.

Goals

3.6.1 Review Illicit Discharge Procedures

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

The City of Roseville has developed standard operation procedures (SOPs) and enforcement response procedures (ERPs) for suspected and reported illicit discharges as described in the NPDES permit. These procedures are included in the City of Roseville MS4 SOPs and ERPs document. This document shall be reviewed annual and updated with an identified changes.

Provide a summary of any identified changes to the City of Roseville MS4 SOPs and ERPs document related to illicit discharges.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

4 MCM 4: Construction Site Stormwater Runoff Control

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description:

New permittees shall develop, implement, and enforce, and **existing permittees** shall revise their current program, as necessary, and continue to implement and enforce, a Construction Site **Stormwater** Runoff Control program that **reduces** pollutants in stormwater runoff to the **small MS4** from **construction activity** with a land disturbance of greater than or equal to one acre, including projects less than one acre that are part of a larger **common plan of development or sale**, that occurs within the **permittee's** jurisdiction. The program shall incorporate the following components:

a. Regulatory Mechanism(s)

A Regulatory Mechanism(s) that establishes requirements for erosion and sediment controls and waste controls that is at least as stringent as the **Agency's general permit to Discharge Storm water Associated with Construction Activity NO. MN R100001** (as of the **effective date** of this permit). The **permittee's** Regulatory Mechanism(s) shall require that owners and operators of **construction activity** develop site plans that must be submitted to the **permittee** for review and approval, prior to the start of **construction activity**. Site plans must be kept up-to-date by the owners and operators of **construction activity** with regard to **stormwater** runoff controls. The Regulatory Mechanism(s) must require that site plans incorporate the following erosion and sediment controls and waste controls as described in the above referenced permit:

- (1) **BMPs** to minimize erosion
 - (2) **BMPs** to minimize the discharge of sediment and other pollutants
 - (3) **BMPs** for dewatering activities
 - (4) Site inspections and records of rainfall events
 - (5) **BMP** maintenance
 - (6) Management of solid and hazardous wastes on each project site
 - (7) Final stabilization upon the completion of **construction activity**, including the use of perennial vegetative cover on all exposed soils or other equivalent means
 - (8) Criteria for the use of temporary sediment basins
- b. Site plan review

The program shall include written procedures for site plan reviews conducted by the **permittee** prior to the start of **construction activity**, to ensure compliance with requirements of the Regulatory Mechanism(s). The site plan review procedure shall include notification to owners and operators proposing **construction activity** of the need to apply for and obtain coverage under the **Agency's general permit to Discharge Stormwater Associated with Construction Activity NO. MN R100001**.

c. Public input

The program shall 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**.

d. Site inspections

The program shall include written procedures for conducting site inspections, to determine compliance with the **permittee's** Regulatory Mechanism(s). The written procedures shall:

(1) Include procedures for identifying priority sites for inspection. Prioritization can be based on such parameters as topography, soil characteristics, type of **receiving water(s)**, stage of construction, compliance history, weather conditions, or other local characteristics and issues.

(2) Identify frequency at which site inspections will be conducted

(3) Identify name(s) of individual(s) or position titles responsible for conducting site inspections

(4) Include a checklist or other written means to document site inspections when determining compliance.

e. Enforcement Response Procedures (ERPs) required by Part III.B of this permit

f. Documentation of the following information:

(1) For each site plan review - The project name, location, total acreage to be disturbed, owner and operator of the proposed **construction activity**, and any **stormwater** related comments and supporting documentation used by the **permittee** to determine project approval or denial.

(2) For each site inspection - Inspection checklists or other written means used to document site inspections

Best Management Practices

4.1 Regulatory Mechanism - Erosion, Sediment and Waste Controls

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Required: Yes

Description

Develop, implement and enforce a regulatory mechanism that establishes requirements for erosion and sediment control and waste control from construction activity as described by NPDES permit.

Goals

4.1.1 ESC Regulatory Mechanism

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

The City of Roseville has developed and adopted a regulatory mechanism to establish requirements for erosion and sediment controls and waste controls from construction activity as described by the NPDES permit. The following link will direct you to Roseville's City Code that contains adopted construction activity regulatory mechanisms:

<http://www.cityofroseville.com/2538/Stormwater-Ordinance-Standards>

Conduct an annual review of the construction site stormwater runoff control mechanisms and related policies and procedures. Identify any need for revisions to improve the regulatory mechanism effectiveness.

Summarize the results of the review and described any necessary changes, including specific revisions required.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

4.2 Site Plan Review - ESC

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Required: Yes

Description

Develop, maintain and implement written site plan review procedures for construction site erosion and sediment control practices prior to the start of construction activity to ensure compliance with requirements of the Regulatory Mechanism(s). Include notification to owners and operators proposing construction activity of the need to apply for and obtain coverage under the Agency's general permit.

Goals

4.2.1 Annual Review - Construction Site Stormwater Runoff Control Procedures

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

The City of Roseville has developed procedures for review of construction site erosion and sediment control practices as described, including notification procedures as required. These procedures are included in the City of Roseville MS4 SOPs and ERPs document. This document shall be reviewed annually and updated with any identified changes.

Provide a summary of any identified changes to the the City of Maplwood MS4 SOPs and ERPs related to review of construction site erosion and sediment control practices.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

4.2.3 ESC Site Plan Reviews

Responsible Staff / Position: Dan Turner
Project Coordinator
651-792-7045

Description

Erosion control site plans shall be submitted for all grading and construction activities as detailed in the City of Roseville MS4 SOPs and ERPs document. The review process shall follow steps as laid out in the City of Roseville MS4 SOPs and ERPs document.

For each reporting period provide a summary of projects requiring an erosion control site plan review. The summary shall include the following information:

- Project name and number
- Location
- Total acreage disturbed
- Owner and operator of the proposed construction activity

All storm water related comments and supporting documentation used by the permittee to determine project approval or denial shall be stored in the City's project files.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

4.3 Site Inspections - Construction

Responsible Staff / Position: Dana Stevens
Right-of-Way Coordinator
651-792-7047

Required: Yes

Description

The City of Roseville has developed written procedures for site inspections for construction site erosion and sediment control practices, including notification procedures as required. These procedures are included in the City of Roseville MS4 Standard Operation Procedures (SOPs) and Enforcement Response Procedures (ERPs) document. This document shall be reviewed annually and updated with any identified changes.

The City shall follow the site inspection procedures as detailed in the City of Roseville MS4 SOPs and ERPs document for all public reported issues relative to noncompliance with stormwater management during construction activities.

Goals

4.3.1 Annual Review - Construction Site Inspection Procedures

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

Review construction site inspection procedures annually and update as necessary to maintain an effective program in compliance with permit requirements. These procedures are included in the City of Roseville MS4 SOPs and ERPs document.

Summarize any planned or completed revisions to the written construction site inspection procedures each reporting period and provide a copy of or link to the current procedures.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

4.3.2 Conduct Construction Site ESC Inspections

Responsible Staff / Position: Dana Stevens
Right-of-Way Coordinator
651-792-7047

Description

Conduct construction site erosion and sediment control and waste control inspections in accordance with the written program procedures and documentation.

On an annual basis provide a summary report on the number of inspections completed each reporting period, including inspection checklists or other written means used to document site inspections.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

4.4 Construction Activity SOPs & ERPs

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Required: Yes

Description

Develop and implement standard operating procedures (SOPs) and enforcement response procedures (ERP) for construction site stormwater runoff control as described in the NPDES permit.

Goals

4.4.1 Annual Review - ERP for Construction Activity

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

The City of Roseville has developed standard operation procedures (SOPs) and enforcement response procedures (ERPs) for construction site stormwater runoff control as described in the NPDES permit. These procedures are included in the City of Roseville MS4 SOPs and ERPs document. This document shall be reviewed annual and updated with an identified changes.

Provide a summary of any identified changes to the City of Roseville MS4 SOPs and ERPs document related to construction site stormwater runoff control.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

5 MCM 5: Post-Construction Stormwater Management

Responsible Staff / Position:

Description:

New permittees shall develop, implement, and enforce, and **existing permittees** shall revise their current program, as necessary, and continue to implement and enforce, a Post-Construction **Stormwater** Management program that prevents or **reduces water pollution** after **construction activity** is completed, related to **new development** and **redevelopment** projects with land disturbance of greater than or equal to one acre, including projects less than one acre that are part of a larger **common plan of development or sale**, within the permittee's jurisdiction and that discharge to the **permittee's small MS4**. The program shall consist, at a minimum, of the following:

a. A Regulatory Mechanism(s) that incorporates:

(1) A requirement 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**

(2) Conditions for Post-Construction **Stormwater** Management:

The **permittee** shall develop and implement a Post-Construction **Stormwater** Management program that 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 **MEP**:

(a) For **new development** projects - no net increase from pre-project conditions (on an annual average basis) of:

1) **Stormwater** discharge Volume, unless precluded by the **stormwater** management limitations in Part 111.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:

1) **Stormwater** discharge Volume, unless precluded by the **stormwater** management limitations in Part 111.D.5.a(3)(a)

2) **Stormwater** discharges of TSS

3) **Stormwater** discharges of TP

(3) **Stormwater** management limitations and exceptions

(a) Limitations

1) The **permittee's** Regulatory Mechanism(s) shall prohibit the use of infiltration techniques to achieve the conditions for post-construction **stormwater** management in Part III.D.5.a(2) when the infiltration **structural stormwater BMP** will receive discharges from, or be constructed in areas:

a) Where industrial facilities are not authorized to infiltrate industrial **stormwater** under an **NPDES/SDS Industrial Stormwater** Permit issued by the **Agency**

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) The **permittee's** Regulatory Mechanism(s) shall restrict the use of infiltration techniques to achieve the conditions for post-construction **stormwater** management, 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:

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 Part.III.D.5.a(2), the **permittee's** Regulatory Mechanism(s) may allow exceptions as described in 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.
- (b) Exceptions for stormwater discharge volume

The **permittee's** Regulatory Mechanism(s) may allow for lesser volume control on the site of the original **construction activity** than that in Part III.D.5.a(2) only under the following circumstances:

- 1) The owner and/or operator of a **construction activity** is precluded from infiltrating **stormwater** through a designed system due to any of the infiltration related limitations described above, and
 - 2) The owner and/or operator of the **construction activity** implements, to the **MEP**, volume reduction techniques, other than infiltration, (e.g., evapotranspiration, reuse/harvesting, conservation design, green roofs, etc.) on the site of the original **construction activity** that **reduces stormwater** discharge volume, but may not meet the conditions for post-construction **stormwater** management in Part.III.D.5.a(2).
- (4) Mitigation provisions

There may be circumstances where the **permittee** or other owners and operators of a **construction activity** cannot cost effectively meet the conditions for post-construction **stormwater** management for TSS and/or TP in Part III.D.5.a(2) on the site of the original **construction activity**. For this purpose, the **permittee** shall identify, or may require owners or operators of a **construction activity** to identify, locations where mitigation projects can be completed. 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:

- 1) Locations that yield benefits to the same **receiving water** that receives runoff from the original **construction activity**
- 2) Locations within the same 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**.

(c) Routine maintenance of **structural stormwater BMPs** already required by this permit cannot be used to meet mitigation requirements of this Part.

(d) Mitigation projects shall be completed within 24 months after the start of the original **construction activity**.

(e) The **permittee** shall determine, and document, who is responsible for long-term maintenance on all mitigation projects of this Part.

(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).

(5) Long-term maintenance of structural stormwater BMPs

The **permittee's** Regulatory Mechanism(s) shall provide for the establishment of legal mechanism(s) 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 Part III.D.5.a(2). This only includes **structural stormwater BMPs** constructed after the **effective date** of this permit, 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.

(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.

(c) Include conditions that are designed to protect/preserve **structural stormwater BMPs** and site features that are implemented to comply with 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 Part III.D.5.a(2) continue to be met.

b. Site plan review

The program shall include written procedures for site plan reviews conducted by the **permittee** prior to the start of **construction activity**, to ensure compliance with requirements of the Regulatory Mechanism(s).

c. Documentation of the following information:

(1) Any supporting documentation used by the **permittee** to determine compliance with 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

(2) All supporting documentation associated with mitigation projects authorized by the **permittee**

(3) Payments received and used in accordance with Part III.D.5.a(4)(f)

(4) All legal mechanisms drafted in accordance with Part III.D.5.a(5), including date(s) of the agreement(s) and name(s) of all responsible parties involved

Best Management Practices

5.1 Regulatory Mechanism - Post-Construction Stormwater Management

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Required: Yes

Description

Develop, implement and enforce a regulatory mechanism that establishes requirements for post-construction stormwater management as described by NPDES permit.

Goals

5.1.1 Post-Construction Regulatory Mechanism Responsible Staff /

Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

The City of Roseville has developed and adopted a regulatory mechanism to establish requirements for post-construction stormwater management as described by the NPDES permit. The following link will direct you to Roseville's City Code that contains adopted construction activity regulatory mechanisms:

<http://www.cityofroseville.com/2538/Stormwater-Ordinance-Standards>

Conduct an annual review of the post-construction stormwater management regulatory mechanism and related policies and procedures. Identify any need for revisions to improve the regulatory mechanism effectiveness.

Summarize the results of the review and described any necessary changes, including specific revisions required.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

5.2 Post-Construction BMPs

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Required: Yes

Description

The City of Roseville has several ordinances and standards that must be followed to meet post construction runoff rates and water quality infiltration volume requirements. There are a variety of both structural and non- structural BMPs that can be used to meet the City's requirements. The type of BMPs can vary from raingardens, underground infiltration systems, underground rate control facilities, structural water quality facilities, and ponding systems.

These BMPs require various levels of maintenance to maintain their effectiveness. Therefore, it is important that the City maintains a system for tracking the locations and types of BMPs installed within the city, require a maintenance agreements on all new private BMPs, and to maintain a system for tracking the private stormwater maintenance agreements.

Goals

5.2.1 Maintain City Database and GIS Map for Private Maintenance Agreements

Responsible Staff / Position: Jolinda Stapleton
GIS Coordinator
651-792-7044

Description

Throughout each reporting cycle, the City's database and GIS map for Private Maintenance Agreements Map be updated with each new maintenance agreement. A copy of the fully executed agreements shall be scanned and entered into the system along with updating the GIS map.

For each reporting year review completed projects to verify that all fully executed agreements have been added. Report the number of new private maintenance agreements for each reporting year.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

5.3 Post-Construction Stormwater Management SOPs and ERPs

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Required: Yes

Description

Develop, maintain, and implement standard operating procedures (SOPs) and enforcement response procedures (ERP) related to post-construction stormwater management as described in the NPDES permit.

Goals

5.3.1 Post-Construction Stormwater Management SOPs & ERPs

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

The City of Roseville has developed standard operation procedures (SOPs) and enforcement response procedures (ERPs) for construction site stormwater runoff control as described in the NPDES permit. These procedures are included in the City of Roseville MS4 SOPs and ERPs document. This document shall be reviewed annually and updated with an identified changes.

Provide a summary of any identified changes to the City of Roseville MS4 SOPs and ERPs document related to post-construction stormwater management.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

6 MCM 6: Pollution Prevention/ Good Housekeeping for Municipal Operations

Responsible Staff / Position:

Description:

New permittees shall develop and implement, and **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 **permittee** owned/operated facilities and operations to the **small MS4**. The operations and maintenance program shall include, at a minimum, the following:

a. Facilities Inventory

The **permittee** shall develop and maintain an inventory of **permittee** owned/operated facilities that contribute pollutants to **stormwater** discharges. Facilities to be inventoried may include, but is not limited to: composting, equipment storage and maintenance, hazardous waste disposal, hazardous waste handling and transfer; landfills, solid waste handling and transfer, parks, pesticide storage, public parking lots, public golf courses; public swimming pools, public works yards, recycling, salt storage, vehicle storage and maintenance (e.g., fueling and washing) yards, and materials storage yards.

b. Development and Implementation of BMPs for inventoried facilities and municipal operations

Considering the source of pollutants and sensitivity of **receiving waters** (e.g., Outstanding Resource Value Waters (ORVWs), **impaired waters**, trout streams, etc.), the **permittee** shall develop and implement **BMPs** that prevent or **reduce** pollutants in **stormwater** discharges from the **small MS4** and from:

- (1) All inventoried facilities that discharge to the **MS4**, and
- (2) The following municipal operations that may contribute pollutants to stormwater discharges, where applicable:
 - (a) Waste disposal and storage, including dumpsters
 - (b) Management of temporary and permanent stockpiles of materials such as street sweepings, snow, deicing materials (e.g., salt), sand and sediment removal piles
 - (c) Vehicle fueling, washing and maintenance
 - (d) Routine street and parking lot sweeping
 - (e) Emergency response, including spill prevention plans
 - (f) Cleaning of maintenance equipment, building exteriors, dumpsters, and the disposal of associated waste, and wastewater
 - (g) Use, storage, and disposal of significant materials**
 - (h) Landscaping, park, and lawn maintenance
 - (i) Road maintenance, including pothole repair, road shoulder maintenance, pavement marking, sealing, and repaving
 - (j) Right-of-way maintenance, including mowing
 - (k) Application of herbicides, pesticides, and fertilizers
 - (l) Cold-weather operations, including plowing or other snow removal practices, sand use, and application of deicing compounds

c. Development and implementation of **BMPs** for **MS4** discharges that may affect Source Water Protection Areas (Minn. R. 4720.5100-4720.5590)

The **permittee** shall incorporate **BMPs** into the **SWPPP** to protect any of the following drinking water sources that the **MS4** discharge may affect, and the **permittee** shall include the map of these sources with the **SWPPP** if they have been mapped:

- (1) Wells and source waters for DWSMAs identified as vulnerable under Minn. R. 4720.5205, 4720.5210, and 4720.5330

(2) Source water protection areas for surface intakes identified in the source water assessments conducted by or for the Minnesota Department of Health (MDH) under the federal Safe Drinking Water Act, U.S.C. SubSection 300j - 13

d. Pond Assessment Procedures and Schedule

The **permittee** shall develop 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**. The schedule (which may exceed this permit term) shall be based on measureable goals and priorities established by the **permittee**.

e. Inspections

(1) Unless inspection frequency is adjusted as described below, the **permittee** shall conduct annual inspections of **structural stormwater BMPs** (excluding **stormwater** ponds which are under a separate schedule below) to determine structural integrity, proper function and maintenance needs.

Inspections of **structural stormwater BMPs** shall be conducted annually unless the **permittee** determines if either of the following conditions apply: 1) Complaints received or patterns of maintenance indicate a greater frequency is necessary, or 2) Maintenance or sediment removal is not required after completion of the first two annual inspections; in which case the **permittee** may reduce the frequency of inspections to once every two (2) years. However, **existing permittees** are authorized under this permit to continue using inspection frequency adjustments, previously determined under the *general stormwater permit/or small MS4s No. MNR040000*, effective June 1, 2006, provided that documentation requirements in Part III.D.6.h(2) are satisfied.

(2) Prior to the expiration date of this permit, the **permittee** shall conduct at least one inspection of all ponds and **outfalls** (excluding underground **outfalls**) in order to determine structural integrity, proper function, and maintenance needs.

(3) The **permittee** shall conduct quarterly inspections of stockpiles, and storage and material handling areas as inventoried in Part III.D.6.a, to determine maintenance needs and proper function of **BMPs**.

f. Maintenance

Based on inspection findings, the **permittee** shall determine if repair, replacement, or maintenance measures are necessary in order to ensure the structural integrity, proper function, and treatment effectiveness of **structural stormwater BMPs**. Necessary maintenance shall be completed as soon as possible to prevent or reduce the discharge of pollutants to stormwater.

g. Employee Training

The **permittee** shall develop and implement a **stormwater** management training program commensurate with employee's job-duties as they relate to the **permittee's SWPPP**, including reporting and assessment activities. The **permittee** may use training materials from the United States Environmental Protection Agency (USEPA), state and regional agencies, or other organizations as appropriate to meet this requirement. The employee training program shall:

- (1) Address the importance of protecting water quality
- (2) Cover the requirements of the permit relevant to the job duties of the employee
- (3) Include 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

h. Documentation of the following information:

- (1) Date(s) and description of findings of all inspections conducted in accordance with Part III.D.6.e

- (2) Any adjustments to inspection frequency as authorized under Part III.D.6.e(1)
- (3) A description of maintenance conducted, including dates, as a result of inspection findings
- (4) Pond sediment excavation and removal activities, including:
 - (a) The unique ID number (consistent with that required in Part III.C.2.a) of each **stormwater** pond from which sediment is removed
 - (b) The volume (e.g., cubic yards) of sediment removed from each **stormwater** pond
 - (c) Results from any testing of sediment from each removal activity
 - (d) Location(s) of final disposal of sediment from each **stormwater** pond
- (5) Employee **stormwater** management training events, including a list of topics covered, names of employees in attendance, and date of each event

Best Management Practices

6.1 Facilities Inventory List

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Required: Yes

Description

Develop and maintain an inventory of permittee owned/ operated facilities that contribute pollutants to stormwater discharges.

Facilities to be inventoried may include, but are not limited to: composting, equipment storage and maintenance, hazardous waste disposal, hazardous waste handling and transfer; landfills, solid waste handling and transfer, parks, pesticide storage, public parking lots, public golf courses; public swimming pools, public works yards, recycling, salt storage, vehicle storage and maintenance (e.g., fueling and washing) yards, and materials storage yards.

Goals

6.1.1 MS4 Facilities Inventory

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

The City of Roseville has developed facilities inventory list as describe in the NPDES permit. The City has also developed a GIS map that shows the location and information of each facility.

Conduct an annual review of the facilities inventory list. Identify any need for revisions to list or the GIS map. Summarize the results of the review and described any necessary changes required.

Provide a copy of or link to the completed and updated inventory each reporting period.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

6.2 Street Sweeping

Responsible Staff / Position: Steve Zweber
Streets Superintendent
651-792-7052

Required: Yes

Description

The City will continue the current street sweeping program for vehicle safety, pedestrian safety, and water quality and environmental reasons. Street sweeping will be done as weather permits once during spring and once during the fall of each year. The City also prioritizes sweeping to target key areas of the City as needed and in environmentally sensitive areas.

Goals

6.2.1 Annual Street Sweeping

Responsible Staff / Position: Steve Zweber
Streets Superintendent
651-792-7052

Description

On an annual basis the streets in Roseville will sweep at least once in the spring and once in the fall. Additional sweeping in targeted or environmental sensitive areas will be done as weather permits.

For each reporting cycle attach the sweeping records and include a summary of estimated miles of roads swept, volume of material collected, and weight of material collected.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

6.3 Employee Training

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Required: Yes

Description

Develop and implement a stormwater management training program commensurate with employee's job-duties as they relate to the permittee's SWPPP, including reporting and assessment activities. The permittee may use training materials from the United States Environmental Protection Agency (USEPA), state and regional agencies, or other organizations as appropriate to meet this requirement. The employee training program shall:

1. Address the importance of protecting water quality
2. Cover the requirements of the permit relevant to the job duties of the employee
3. Include 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

Goals

6.3.1 Annual Employee Training

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

Conduct a staff training event on stormwater related topic at a **minimum of one time each year**. The training will be provided, in accordance with the City of Roseville MS4 SOPs and ERPs document, to ensure the following:

- 1) Staff understands the importance of protecting water quality
- 2) Cover what requirements of the city's MS4 permit are relevant to the job duties of the employees
- 3) Provide continuing education opportunities through seminars, MnDot certification classes, educational material, and various other methods

For each reporting cycle attach a summary of the various training help/attended through out the year and include the following information:

- 1) Date(s)
- 2) List of topics covered
- 3) Number of employees in attendance

Planned: 2016

Complete: 2016

Activity Date	Name	Description
01/13 & 19/2016	Staff training	Annual MS4 All Staff training- Salt Use

6.4 Inspections - Stormwater BMPs

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Required: Yes

Description

(1) Conduct annual inspections of structural stormwater BMPs (excluding stormwater ponds which are under a separate schedule below) to determine structural integrity, proper function and maintenance needs.

Inspections of structural stormwater BMPs shall be conducted annually unless the permittee determines if either of the following conditions apply:

1) Complaints received or patterns of maintenance indicate a greater frequency is necessary, or
2) Maintenance or sediment removal is not required after completion of the first two annual inspections; in which case the permittee may reduce the frequency of inspections to once every two (2) years.
However, existing permittees are authorized under this permit to continue using inspection frequency adjustments, previously determined under the general storm water permit/or small MS4s NO.MNR040000, effective June 1, 2006, provided that documentation requirements in Part III.D.6.h(2) are satisfied.

(2) Conduct at least one inspection of all ponds and outfalls (excluding underground outfalls) in order to determine structural integrity, proper function, and maintenance needs prior to the expiration date of this permit

(3) Conduct quarterly inspections of stockpiles, and storage and material handling areas as inventoried in Part III.D.6.a, to determine maintenance needs and proper function of BMPs.

Goals

6.4.1 Annual Inspections - Structural Stormwater BMPs

Responsible Staff / Position: Steve Zweber
Streets Superintendent
651-792-7052

Description

Conduct annual inspections of structural stormwater BMPs (i.e. trap manholes, sumps, floatable skimmers, separators, and other small settling or filtering devices) to determine structural integrity, proper function and maintenance needs. Adjust the inspection frequency per existing permit terms and conditions.

For each reporting cycle attach a summary of inspections documenting the dates of and findings of all inspections. Include a description of required maintenance and any adjustments to the inspection frequency.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
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None		
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6.4.2 Inspections 20% Per Year - Ponds and Outfalls

Responsible Staff / Position: Steve Zweber
Streets Superintendent
651-792-7052

Description

Inspect at least 20% of system ponds and outfalls each year to determine structural integrity, proper function and maintenance needs.

For each reporting cycle attach a summary of inspections documenting the dates of and findings of all inspections. Include a description of required maintenance and any adjustments to the inspection frequency.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

6.4.3 Quarterly Inspections - Stockpiles & Material Handling Areas

Responsible Staff / Position: Steve Zweber
Streets Superintendent
651-792-7052

Description

Conduct quarterly inspections of stockpiles, inventoried storage areas and material handling areas to determine maintenance needs and proper function of BMPs.

For each reporting cycle attach a summary of inspections documenting the dates of and findings of all inspections. Include a description of required maintenance and any adjustments to the inspection frequency.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

6.5 Maintenance Activities

Responsible Staff / Position: Steve Zweber
Streets Superintendent
651-792-7052

Required: Yes

Description

Determine if repair, replacement, or maintenance measures are necessary based on inspection findings to ensure the structural integrity, proper function, and treatment effectiveness of the following items:

- 1) Stormwater System
- 2) Ponds & Outfalls
- 3) Stockpiles & Material Handling Areas

Complete necessary maintenance as soon as possible to prevent or reduce the discharge of pollutants to stormwater.

Goals

6.5.1 Maintenance - Stormwater System

Responsible Staff / Position: Steve Zweber
Street Superintendent
651-792-7052

Description

Repair, replace or maintain structural the City's stormwater system based on inspection findings to ensure structural integrity, proper function and treatment effectiveness.

For each reporting period attach a summary of maintenance activities performed on the City's stormwater system including a description of maintenance conducted and dates.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

6.5.2 Maintenance - Ponds & Outfalls Responsible

Staff / Position: Steve Zweber
Streets Superintendent
651-792-7052

Description

Repair, replace or maintain ponds and outfalls based on inspection findings to ensure structural integrity, proper function and treatment effectiveness.

For each reporting period attach a summary of maintenance activities performed on the ponds and outfalls including a description of maintenance conducted and dates.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

6.5.3 Maintenance - Stockpiles & Material Handling Areas

Responsible Staff / Position: Steve Zweber
Streets Superintendent
651-792-7052

Description

Repair, replace or maintain stockpiles and material handling areas based on inspection findings to ensure structural integrity, proper function and treatment effectiveness.

For each reporting period attach a summary of maintenance activities performed on the stockpiles and material handling areas including a description of maintenance conducted and dates.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

6.6 Pond Assessment Procedures and Schedule

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Required: Yes

Description

Develop procedures and a schedule to determine the TSS and TP treatment effectiveness of all permittee owned/ operated ponds constructed and used for the collection and treatment of stormwater. The schedule shall be based on measurable goals and priorities established by the permittee.

Goals

6.6.1 Pond Assessments

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

The City of Roseville has developed procedures and a schedule to determine the TSS and TP treatment effectiveness of all permittee owned/ operated ponds constructed and used for the collection and treatment of stormwater. These procedures and schedule are outlined in the City of Roseville MS4 SOPs and ERPs document.

Conduct pond assessments to determine TSS and TP treatment effectiveness in accordance with the City of Roseville MS4 SOPs and ERPs document.

Provide a summary of pond assessments completed including a list of inspected ponds.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

6.7 Pollution Prevention / Good Housekeeping for Municipal Operations SOPs & ERPs

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Required: Yes

Description

Develop, maintain, and implement standard operating procedures (SOPs) and enforcement response procedures (ERP) related to pollution prevention / good housekeeping for municipal operations as described in the NPDES permit.

Goals

6.7.1 Pollution Prevention / Good Housekeeping for Municipal Operations SOPs & ERPs

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

The City of Roseville has developed standard operation procedures (SOPs) and enforcement response procedures (ERPs) for pollution prevention / good housekeeping for municipal operations as described in the NPDES permit. These procedures are included in the City of Roseville MS4 SOPs and ERPs document. This document shall be reviewed annually and updated with an identified changes.

Provide a summary of any identified changes to the City of Roseville MS4 SOPs and ERPs document related to pollution prevention/ good housekeeping for municipal operations.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

7 Compliance Schedule for an Approved TMDL with an Applicable WLA

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description:

Discharges to **Impaired Waters** with a USEPA-Approved **TMDL** that includes and **Applicable WLA**

For each **applicable WLA** approved prior to the **effective date** of this permit, the **BMPs** included in the compliance schedule at application constitute a discharge requirement for the **permittee**. The **permittee** shall demonstrate continuing progress toward meeting each discharge requirement, on a form provided by the **Commissioner**, by submitting the following:

1. An assessment of progress toward meeting each discharge requirement, including a list of all **BMPs** being applied to achieve each **applicable WLA**. For each **structural stormwater BMP**, the **permittee** shall provide a unique identification (ID) number and **geographic coordinate**. If the listed **structural stormwater BMP** is also inventoried as required by Part III.C.2, the same ID number shall be used.
2. A list of all **BMPs** the **permittee** submitted at the time of application in the **SWPPP** document compliance schedule(s) and the stage of implementation for each **BMP**, including any **BMPs** specifically identified for the **small MS4** in the **TMDL** report that the **permittee** plans to implement
3. An up-dated estimate of the cumulative reductions in loading achieved for each **pollutant of concern** associated with each **applicable WLA**
4. An up-dated narrative describing any adaptive management strategies used (including projected dates) for making progress toward achieving each **applicable WLA**

Best Management Practices

7.1 Annual Review of TMDL's with an Applicable WLA

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Required: Yes

Description

On an annual basis the City will conduct a review of all approved Total Maximum Daily Load (TMDLs) with an applicable Waste Load Allocation (WALs).

The review will provide an assessment of progress toward meeting each discharge requirement, including a list of all BMPs being applied to achieve each applicable WLA.

Goals

7.1.1 Annual Review of Current TMDL's Responsible Staff

/ Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

For each reporting cycle the City will conduct a review of all active approved Total Maximum Daily Load (TMDL) with an applicable Waste Load Allocations (WAL).

For each reporting cycle attach a list of all active approved TMDL's with applicable WAL's. Document the name of the water body with the approved TMDL's and type of WAL.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
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None

7.1.2 Annual WAL Progress and BMP's Responsible

Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

Assess progress toward meeting the identified discharge requirement each reporting period.

For each reporting period attach the results of the assessments including a list of all BMPs applied to the applicable WLA.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
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None

8 SOP's & ERP's

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description:

Store most current version of the City of Roseville MS4 Standard Operation Procedures (SOPs) and Enforcement Response Procedures (ERPs). This document will be reviewed on an annual basis.

Best Management Practices

8.1 Current SOPs & ERPs Document Responsible

Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Required: Yes

Description

Provide the most current version of the City of Roseville MS4 Standard Operations Procedures (SOPs) and Enforcement Response Procedures (ERPs).

Goals

8.1.1 Annually Updated SOPs & ERPs Document

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

Attached is the most current version of the City of Roseville MS4 Standard Operations Procedures (SOPs) and Enforcement Response Procedures (ERPs). Each year the latest version will be attached in order to provide a secure and accessible location for this document.

Planned: 2016

Complete: 2016

Activity Date	Name	Description
None		

9 Completed MPCA Annual Report Form

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description:

The MPCA requires each city to submit an annual report for the NPDES permit. This form is distributed by the MPCA and is required to be submitted by June 30th following each reporting cycle.

Best Management Practices

9.1 MPCA Annual Report Form

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Required: Yes

Description

Complete and submit the MPCA's annual report for each reporting cycle. This report is required to be submitted to the MPCA by June 30th of the following year.

Goals

9.1.1 Annual Report Form

Responsible Staff / Position: Ryan Johnson
Environmental Specialist
651-792-7049

Description

Attach a copy of the MPCA's annual report form for each reporting cycle.

Planned: 2017

Complete: 2017

Activity Date	Name	Description
May-June 2017	Annual Report	Complete 2016 Annual Report by June 30, 2017

Appendix E

Water Resource Related Agreements

**PROGRAMMATIC STORMWATER MANAGEMENT FACILITY
MAINTENANCE AGREEMENT**

**Rice Creek Watershed District and
the City of Roseville**

RECEIVED

JUL 14 2015

**Rice Creek
Watershed District**

This Agreement is by and between the Rice Creek Watershed District, a special purpose unit of local government with powers set forth in Minnesota Statutes Chapters 103B and 103D (RCWD), and the City of Roseville, a Public Municipal Corporation under the laws of the State of Minnesota (CITY).

Recitals

WHEREAS pursuant to Minnesota Statutes § 103D.345, the RCWD has adopted and implements Rule C, Stormwater Management Plans;

WHEREAS under Rule C, certain land development activity requires a landowner to record a declaration establishing the landowner's perpetual obligation to inspect and maintain stormwater management facilities;

WHEREAS a public landowner may memorialize its obligations in an unrecorded written agreement with the RCWD instead of a recorded instrument;

WHEREAS from time to time CITY is subject to stormwater facility maintenance requirements pursuant to the terms of an RCWD permit;

WHEREAS CITY, as a Municipal Separate Storm Sewer System (MS4), is obligated to inspect and maintain its stormwater management facilities in accordance with the terms of a Clean Water Act permit administered by the Minnesota Pollution Control Agency, and the parties desire to promote consistency in facility management requirements consistent with RCWD authority to set requirements necessary to meet its rules; and

WHEREAS the RCWD and CITY concur that it is more effective and procedurally more efficient for the RCWD and CITY to agree on standard requirements for stormwater facility inspection and maintenance, and to memorialize these requirements in this Agreement for incorporation into future permits.

THEREFORE:

1. CITY agrees to inspect and maintain all stormwater best management practices (BMPs), owned by the City or maintained by the City under another intergovernmental agreement, that have been permitted by the RCWD under Rule C as follows:

- a. Outfalls, sediment basins, retention/detention ponds will be inspected at least once every five years. If warranted by required sediment removal or maintenance needs, inspections will be conducted at a greater frequency.
- b. Structural stormwater management facilities including, but not limited to, grit chambers, sump catch basins, sump manholes and appurtenant conveyances, as well as infiltration and

biofiltration BMPs including, but not limited to, vegetated swales, rain gardens and filtration features, will be inspected annually to ensure structural integrity, proper function and treatment effectiveness. If, after the first two annual inspections, maintenance or sediment removal is not required then the frequency will be reduced to once every two (2) years. Should a subsequent inspection indicate the need for sediment removal or maintenance, the inspection schedule will revert to annual inspections following the completion of the maintenance work. If, after the first two post-maintenance annual inspections, no additional maintenance or sediment removal is required, then the inspection frequency will be reduced to once every two (2) years.

c. Proprietary devices will be inspected per manufacturer/installer recommendations, and at least annually.

d. All inspections will occur at a time that allows CITY to determine if the facility is functioning as designed.

e. In addition, CITY will respond promptly to notice from the RCWD that a facility may require inspection or maintenance. Within one month of notice, CITY will inspect and advise the RCWD on the results of the inspection.

2. CITY will maintain, repair and replace BMPs when inspection indicates this is necessary to restore design performance. Maintenance necessity will be as recommended in Minnesota Stormwater Manual guidance. CITY will complete work within six (6) months of inspection, except that periodic sediment removal from basins will be completed within eighteen (18) months of inspection. Alternatively, an RCWD-approved maintenance schedule may be used as a work timeline.

3. CITY will submit a copy of its MS4 permit annual report to the RCWD at the same time that it is required to be submitted to the MPCA, with any supplement as needed to briefly describe dates, locations and descriptions of inspection and maintenance activities.

4. RCWD permits for specific projects may contain additional inspection and maintenance conditions as the RCWD may find warranted under the circumstances of a specific permit.

5. If CITY conveys into private ownership a fee interest in any property that has become subject to this Agreement, it shall require as a condition of sale, and enforce: (a) that the purchaser record a declaration on the property incorporating the stormwater management facility maintenance requirements of this Agreement; and (b) that recordation occur either before any encumbrance is recorded on the property or, if after, only as accompanied by a subordination and consent executed by the encumbrance holder ensuring that the declaration will run with the land in perpetuity. If CITY conveys into public ownership a fee interest in any property that has become subject to this Agreement, it shall require as a condition of the purchase and sale agreement that before closing, the purchaser execute an agreement with the RCWD assuming the obligations of this agreement and releasing CITY from same.

6. This Agreement may be amended only in a writing signed by the parties.

7. This Agreement is in force for five years from the date on which it is fully executed and will renew automatically for five-year terms unless terminated. Either party may terminate the

Agreement on 30 days' written notice to the other. The terms of this Agreement are incorporated into any future permit issued to the CITY by explicit reference to this Agreement under the maintenance conditions of that permit. Any obligations vested in CITY through incorporation into an issued permit before the effective date of termination of this Agreement will survive expiration.

8. The recitals above are incorporated as a part of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement.

RICE CREEK WATERSHED DISTRICT

By Phil Belfiori
(Print name:)
Its Administrator

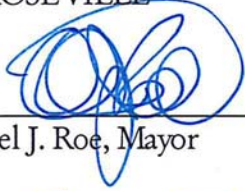
Date: 7/16/08

Approved as to form and execution

By _____
Its Attorney

CITY OF ROSEVILLE

BY:


Daniel J. Roe, Mayor

AND:


Patrick J. Trudgeon, City Manager

STATE OF MINNESOTA)

) SS

COUNTY OF RAMSEY)

The foregoing instrument was acknowledge before me this 24th day of July, 2015, by Daniel J. Roe and by Patrick J. Trudgeon, respectively the Mayor and City Manager of the City of Roseville, a Minnesota municipal corporation, on behalf of the corporation and pursuant to the authority granted by its City Council.




Notary Public



MEMORANDUM OF AGREEMENT
for
MAINTENANCE OF STORMWATER MANAGEMENT FACILITIES

AN AGREEMENT, dated this 23 of June, 2014, by and between the **CAPITOL REGION WATERSHED DISTRICT** hereinafter called the "DISTRICT", and the **CITY OF ROSEVILLE**, Minnesota hereinafter called the "CITY".

WHEREAS, the DISTRICT requires the installation and maintenance of new stormwater management facilities for projects disturbing over one acre in its DISTRICT Rules; and

WHEREAS, the CITY Public Works Department is required to construct new stormwater management facilities according to the DISTRICT Rules for CITY Public Works' projects, including street reconstruction projects; and

WHEREAS, the CITY is required to enter into an agreement to maintain the newly constructed stormwater management facilities under Rule C Section 3.(e) of the DISTRICT Rules; and

NOW, THEREFORE, in consideration of the mutual terms and conditions hereinafter set forth, the DISTRICT and the CITY agree as follows:

SECTION 1. Definitions

a) Stormwater Management Facilities means the devices constructed as a part of Public Work's projects to meet the DISTRICT's rules.

SECTION 2. City Obligations The CITY shall maintain the stormwater management facilities in working condition and in accordance with the schedule of long term maintenance activities agreed to, as follows:

- a) Establish an inventory of stormwater management facilities, which will be updated annually.
- b) Inspect stormwater management facilities annually or according to manufacturer's specification where appropriate.
- c) Maintain all stormwater management facilities as necessary to preserve the integrity and intended function of the facility, and where applicable in accordance with the recommendations of the State of Minnesota Stormwater Manual, or as amended.

SECTION 3. Entire Agreement It is understood and agreed that this Agreement constitutes the entire Agreement between the parties, and that it supersedes all oral agreements and negotiations between the parties relating to the subject matters hereof. This Agreement may be amended only by written agreement of the parties.

SECTION 4. Termination This Agreement may be terminated by either party may terminate by 60 days written notice to the other party. Termination of this agreement, however, would be prospective only, and would not relieve the CITY of its obligation to maintain the stormwater facilities in the manner provided in this Agreement if permits for the facilities were granted during the period when this Agreement is in effect.

1
2 **IN WITNESS WHEREOF**, the parties hereto have executed this Agreement, the day and year first
3 above written.
4

5 **CITY OF ROSEVILLE, MINNESOTA**

6
7
8
9 By _____

10 Dan Roe, Mayor

11
12
13 By _____

14 Duane Schwartz,
15 Public Works Director
16
17
18

19 Approved as to form:

20
21 _____
22 City Attorney
23
24
25

**CAPITOL REGION
WATERSHED DISTRICT**

By _____

Mark Doneux, Administrator

By _____

Joe Collins, President

Approved as to form:

Assistant Ramsey County Attorney
Legal Counsel for Capitol Region
Watershed District

STATE OF MINNESOTA
RICE CREEK WATERSHED DISTRICT

The matter of Watershed Basic Water
Management Project 2013-01 (upon the petition
of the Cities of New Brighton and Saint
Anthony)

**Amended Petition, adding the City
of Roseville and directing further
proceedings**

Petitioners Cities of New Brighton, Roseville and Saint Anthony, for this amended petition to the Board of Managers of the Rice Creek Watershed District state and request the following:

1. On August 19, 2013, the Rice Creek Watershed District (RCWD) Board of Managers received the Joint Petition of the Cities of New Brighton and Saint Anthony for the establishment of a phased basic water management project to develop a comprehensive and integrated strategy for stormwater management, flood damage reduction, and water quality enhancement within the Cities that implements a series of project components to achieve reasonable stormwater management and flood damage reduction objectives.

2. On August 28, 2013, by Resolution 2013-23, the Watershed District Board of Managers initiated the project, assigning Project Number 2013-01, and appointed Houston Engineering as the project engineer to make surveys, maps, analyses and reports for the project as necessary and consistent with the project phasing, coordination and implementation proposals contained within the Petition.

3. The original petition and the terms and processes contained therein remain valid, except to the extent amended herein.

4. Phase 1 of the project phasing, coordination and implementation proposals contained within the original Petition is complete and the project engineer has submitted a draft Phase 1 Report dated March 31, 2014.

5. Staff members from the Cities of New Brighton, Roseville and Saint Anthony have participated in the phase 1 process. In addition to the areas previously identified within the City of New Brighton and St. Anthony, the City of Roseville staff has identified areas within the sub-watershed of Ramsey County Ditch 5 in the City where project components could be developed and implemented to provide both local and regional stormwater management and flood damage reduction benefit.

6. The draft Phase 1 Report leaves open the opportunity to develop project components in phases 2 and 3 to address issues within the City of Roseville and conveyance issues downstream of Long Lake.

7. The draft Phase 1 Report identifies two project components, Mirror Lake and Hansen Park, as key features in the overall project objectives and as ready for immediate implementation while other project components are being developed and analyzed.

8. Both the Mirror Lake and Hansen Park project components are identified in July 2011 Flood Investigation and Stormwater Modeling Reports of the Cities of New Brighton and St. Anthony.

9. During the phase 1 proceedings, the Watershed District submitted a Targeted Watershed Demonstration Grant proposal to the Board of Water and Soil Resources which included the Mirror Lake and Hansen Park project components.

10. The Watershed District was successful in its proposal and has received a grant to be used to pay the cost of various projects, including implementation of the Mirror Lake and Hansen Park project components of the petitioned Basic Water Management Project.

11. The engineer has issued a preliminary opinion of cost to implement the Mirror Lake and Hansen Park project components of the petitioned Basic Water Management Project. The grant funding is not sufficient to pay 100% of the cost to implement the Mirror Lake and Hansen Park project components of the petitioned Basic Water Management Project. However, the Watershed District Board of Managers has determined that implementation of the project components creates both water quality benefits and regional stormwater and flood management benefits. Therefore, the Watershed District will fund implementation of the Mirror Lake and Hansen Park project components of the petitioned Basic Water Management Project from District derived funds without allocation of costs to the project petitioners. Implementation final funding is subject to further proceedings pursuant to this petition.

12. The petitioners agree that phase 1 of the project phasing, coordination and implementation proposals contained within the original Petition is complete and concur in the content of the draft Phase 1 Report dated March 31, 2014.

13. Based on the foregoing, the petitioners amend the original petition as follows:

- a. to allow implementation of Mirror Lake and Hansen Park project components without delay.
- b. to allow proceeding to project phases 2 & 3 concurrently, with the inclusion of project components within the sub-watershed of Ramsey County Ditch 5.
- c. to allow the addition of the City of Roseville as an additional petitioner for the Basic Water Management Project, as if a party to the original petition.

14. The Cities, therefore, amend the original petition to the Rice Creek Watershed District initiating Basic Water Management Project 2013-01 for the following purposes:

- a. Phase 1: Identifying and analyzing current conditions, challenges and opportunities related to stormwater management and flood damage within the

Cities and making recommendations of actions likely to address comprehensive stormwater management and flood damage issues within the Cities and those downstream areas affected by stormwater runoff including Pike and Long Lake;

- b. Phase 2: Developing a regional, comprehensive stormwater management and flood damage reduction plan, to include water quality features, which identifies capital improvements and other actions to be undertaken by the Cities and the Rice Creek Watershed District;
- c. Phase 3: Developing implementation timelines and priorities, costs allocations and revenue generation methods for both implementation and long term maintenance of capital improvements and water quality features;
- d. Phase 4: Implementing one or more of the project components identified in Phase 2 as a coordinated series of capital improvements by the Cities and the Rice Creek Watershed District;

15. This amended petition allows the Watershed District, in cooperation with the petitioners, to take actions set forth in paragraphs 14.b.-c. above until such time as the petitioners, individually or jointly, amend this petition to proceed with subsequent actions contained in paragraph 14. d.

16. This amended petition allows the Watershed District, in cooperation with the petitioners, to take actions set forth in paragraph 14.d. above for the implementation of the Mirror Lake and Hansen Park project components.

17. The costs of the Mirror Lake and Hansen Park project components, based on the engineer's opinion of cost, shall be allocated between proceeds from the Targeted Watershed Demonstration Grant and District derived funds based on the identification of regional benefit from implementation of the project components.

18. Subject to the provisions of Statutes Section 103D.705, Subdivisions 3 & 4, the Petitioners may dismiss this petition or any amendment hereof. Failure to amend the petition to authorize a subsequent phase of the project shall be deemed a dismissal of the petition.

19. This petition is conditioned upon the following process to be followed by the Rice Creek Watershed District in implementing project phases:

- a. Pre-coordination: The Cities and the Rice Creek Watershed District shall meet at the initiation of any project phase to establish a scope of work and anticipated cost.
- b. Study/Component Development: The Rice Creek Watershed District, in consultation with City staff shall prepare all studies and develop project features consistent with project phases and purposes described in paragraph 14. Project study and component development shall culminate with a joint presentation to the City Councils of the outcomes and recommendations of the Rice Creek Watershed District.
- c. Concurrence/Petition Amendment: The City Councils, considering the information and recommendations presented by the Rice Creek Watershed

District, shall concur or not concur with one or more of the recommendations and either authorize petition amendment to proceed with a subsequent phase of the project or dismiss the petition.

20. This petition is authorized by separate resolution of the City Councils authorizing their respective Mayors and City Managers to sign and submit this petition as the action of each City.

21. The proposed Basic Water Management Project will be conducive to the public health, safety, convenience and welfare of the Cities and their residents as well as regional providers and consumers of goods and services within the Cities.

22. The Cities, by action of their individual Councils, concur in the Rice Creek Watershed District's exercise of alternative authority to maintain and improve public drainage systems within the Cities as provided in Minnesota Statutes Section 103D.621, subd. 4.

23. The Cities request, as part of their petition, that the Rice Creek Watershed District exercise its full authorities for generating revenues for the implementation of the petitioned project.

24. All actions described in this Petition are intended to support and be implemented as part of a petitioned Basic Water Management Project of the Rice Creek Watershed District.

25. This petition may be executed in counterparts.

SIGNATURE PAGES TO FOLLOW

SIGNATURE PAGE OF THE CITY OF NEW BRIGHTON TO THE AMENDED PETITION
TO THE RICE CREEK WATERSHED DISTRICT INITIATING BASIC WATER
MANAGEMENT PROJECT 2013-01 TO ADDRESS STORMWATER MANAGEMENT AND
FLOODING WITHIN THE CITIES OF NEW BRIGHTON, ROSEVILLE AND SAINT
ANTHONY, MINNESOTA

Respectfully Submitted:

City of New Brighton

Dated: 5/27/14

By 
Its Mayor

Attest.
By: 
Its City Manager

SIGNATURE PAGE OF THE CITY OF ROSEVILLE TO THE AMENDED PETITION TO
THE RICE CREEK WATERSHED DISTRICT INITIATING BASIC WATER
MANAGEMENT PROJECT 2013-01 TO ADDRESS STORMWATER MANAGEMENT AND
FLOODING WITHIN THE CITIES OF NEW BRIGHTON, ROSEVILLE AND SAINT
ANTHONY, MINNESOTA

Respectfully Submitted:

City of Roseville

Dated: June 9, 2014

By _____
Its Mayor

Attest:

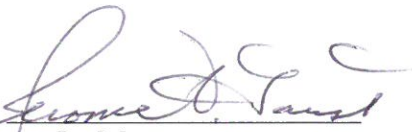
By: _____
Its City Manager

SIGNATURE PAGE OF THE CITY OF SAINT ANTHONY TO THE AMENDED PETITION
TO THE RICE CREEK WATERSHED DISTRICT INITIATING BASIC WATER
MANAGEMENT PROJECT 2013-01 TO ADDRESS STORMWATER MANAGEMENT AND
FLOODING WITHIN THE CITIES OF NEW BRIGHTON, ROSEVILLE AND SAINT
ANTHONY, MINNESOTA

Respectfully Submitted:

City of Saint Anthony

Dated: June 10, 2014

By: 
Its Mayor

Attest:

By: 
Its City Manager

[Maintain 3" top margin for recording]

**DECLARATION FOR MAINTENANCE
of
STORMWATER FACILITIES**

THIS DECLARATION is made this _____ day of _____, 20____, by _____, ("Declarant"), [address], in favor of the City of Roseville, a municipal corporation under the laws of the State of Minnesota (hereinafter referred to as the "City"),

WHEREAS, Declarant(s) [marital status if an individual] hold(s) fee interest in real property within the [City/Township] of _____, _____ County, Minnesota, platted and legally described as:

[insert legal description]

WHEREAS, no one other than Declarant(s) [insert name(s) of any other parties holding interest in the property] possess(es) any right, title or interest in the Property; [If any person or entity other than Declarant possesses a right, title or interest, a Consent & Subordination must be executed by that person or entity and included with the declaration.]

WHEREAS, the facilities on or to be located on the Property to which the maintenance requirements in the Declaration apply as [delineated and] labeled on the scaled site plan Attachment A and legally described on attachment B, each incorporated herein, are as follows (the Facilities):

[list stormwater facilities as labeled on Attachment A]

[Note: A legal description is required only for swales, buffers or other non-structural features that cannot be clearly delineated on Attachment A.]

WHEREAS, Declarant desires to subject the Property to certain conditions and restrictions imposed by the City as a condition to issuance of City Project # _____ for the mutual benefit of the City and Declarant.

NOW THEREFORE, Declarant makes this declaration and hereby declares that this declaration shall constitute covenants to run with the Property, and further declares that the Property shall be owned, used, occupied, and conveyed subject to the covenants and restrictions set forth in this declaration, all of which shall be binding in perpetuity on all persons owning or acquiring any right, title or interest in the Property, and their heirs, successors, personal representatives and assigns, but only during the period of ownership of that right, title or interest.

1. Declarant will inspect the Facilities at least annually.
2. Declarant will maintain and repair the facilities:
 - a. In the case of basins and other facilities where sediment collects, to preserve live storage or capacity at or above the design volume or, where no design live storage volume or capacity is incorporated into the permit, the volume or capacity recommended by the manufacturer.
 - b. In the case of conveyances and other structures, to preserve design hydraulic capacity.
 - c. In the case of facilities relying on soils and vegetation for stormwater management or treatment, to preserve healthy vegetation and design soil permeability.
 - d. In the case of all facilities, as necessary to preserve the integrity and intended function of the facility.
3. Declarant will submit to the City annually, within 30 days of the anniversary of permit issuance, a report listing inspection dates, facilities inspected, facility conditions and actions taken, and dates of actions taken.
4. If Declarant is not maintaining the stormwater treatment system in accordance with this declaration, then the City may give written notice to Declarant detailing the deficiency. If the deficiency has not been corrected within twenty (20) days after receipt of this notice, or Declarant has not within that period made arrangements deemed adequate by the City for the deficiency to be corrected, then the City without further notice may take steps that it deems reasonable to correct the deficiency, and may have access to the property during reasonable times for that purpose. Provided, that the City shall provide notice before entry and exercise due care to avoid unnecessary disturbance or damage to the property. Within thirty (30) days of receipt of invoice Declarant will reimburse the City for all costs incurred, including Administrative overhead and attorneys' fees, by the City in correcting the deficiency

5. Any notice under this declaration shall be sent by certified mail, return receipt requested, or delivered to the following address:

[insert Declarant's name & address]

Declarant may change this address by a certified letter to the City referencing the permit number.

6. An executed copy of this declaration shall be filed with the _____ County **[Recorder's Office/Registrar]**, filing cost to be borne by the Declarant. This declaration will be unlimited in duration without being re-recorded.

**[INDIVIDUAL DECLARANT]
DECLARANT**

STATE OF MINNESOTA)
) ss.
COUNTY OF **[County]**)

The foregoing instrument was acknowledged before me this ____ day of _____,
20__ by _____.

Notary (stamp)

**[CORPORATE OR PARTNERSHIP DECLARANT]
DECLARANT**

By: _____

Its: _____

STATE OF MINNESOTA)
) ss.

COUNTY OF [County])

The foregoing instrument was acknowledged before me this ____ day of _____,
20__ by _____ the _____ of _____,
a **[business entity]** under the Laws of Minnesota, on behalf of Declarant.

Notary (stamp)

This instrument was drafted by:

Name: _____

Address: _____

CONSENT AND SUBORDINATION

_____, a Minnesota corporation, the holder of a mortgage dated
_____, _____, [filed for record with the County Recorder] _____ County, Minnesota on
_____, as Document No. _____, hereby consents to the recording of the attached
Declaration and agrees that its rights in the property affected by the Declaration shall be
subordinated thereto.

IN WITNESS WHEREOF, _____, a Minnesota corporation, has caused this Consent
and Subordination to be executed this _____ day of _____, 200__.

a Minnesota corporation

By: _____

Its: _____

[notary acknowledgement]

DATE: _____

CITY OF ROSEVILLE

By: _____

Its _____

STATE OF MINNESOTA)
) ss.
COUNTY OF **[County]**)

The foregoing instrument was acknowledged before me this ____ day of _____ ,
20__ by _____, a municipal corporation under the laws of the State of
Minnesota, on behalf of said municipal corporation.

Notary Public

Appendix F

Local Drainage Issues

Location	Issue
Acron Rd, 0-2195	Poor surface water management resulting in persistent wet yard condition and/or erosion
Aglen St, 1806	Poor surface water management resulting in persistent wet yard condition and/or erosion
Asbury St, 3000	Poor surface water management resulting in persistent wet yard condition and/or erosion
Bossard Dr, 2241	Public manhole surcharges in large/intense rainfalls
Bossard Dr, 2225-2214	Poor surface water management resulting in persistent wet yard condition and/or erosion
Brooks Ave, 1033	Drainage from street overtopping curb and flowing through private property
Brooks Ave, 380-350 & Transit 375-345	Poor surface water management resulting in persistent wet yard condition and/or erosion
County Rd C2, 1474	Street floods into yard during large/intense rainfalls
Dellwood Ave, 2271-2179	Poor surface water management resulting in persistent wet yard condition and/or erosion
Eldridge Ave, 1803-1789 & Fairview Ave, 2100	Poor surface water management resulting in persistent wet yard condition and/or erosion
Eldridge Ave, 1996	Poor surface water management resulting in persistent wet yard condition and/or erosion
Eldridge Ave, 2042	Poor surface water management resulting in persistent wet yard condition and/or erosion
Fairview Ave, 2891	Drainage from street overtopping curb and flowing through private property
Fernwood Ave, 2744	Poor surface water management resulting in persistent wet yard condition and/or erosion
Fisk St, 2560	Poor surface water management resulting in persistent wet yard condition and/or erosion
Gluek Lane, All	Trunk line storm sewer is undersized and surcharging happens in the neighborhood.
Hamline Ave, 2048	Parking lot drainage issue
Heinel Dr, 837-825	Poor surface water management resulting in persistent wet yard condition and/or erosion
Josephine Rd, 1281	Poor surface water management resulting in persistent wet yard condition and/or erosion
Laurie Rd, 2292 & Fulham St, 2216	Poor surface water management resulting in persistent wet yard condition and/or erosion
Loren Rd, 2043-2045	Poor surface water management resulting in persistent wet yard condition and/or erosion
Marion Rd, 2196	Poor surface water management resulting in persistent wet yard condition and/or erosion
McCarrons Blvd N, 316	Drainage from public property overtopping curb and flowing through private property
Mid Oaks Ln, 89	Poor surface water management resulting in persistent wet yard condition and/or erosion
Millwood Ave, 1658	Drainage from public property overtopping curb and flowing through private property
Millwood Ln, 899-905	Overland flow from adjacent properties flowing through private property
Minnesota Ave, 302	Public manhole surcharges in large/intense rainfalls
Minnesota Ave, 312	Drainage from street overtopping curb and flowing through private property
Old Highway 8, 2922-2994 & Troseth Rd, 2917-2995	Poor surface water management resulting in persistent wet yard condition and/or erosion
Owasso Hills Dr: 534, 536, 538, 542 & Hillscourte S: 2800, 2820, 2830, 2840	Poor surface water management resulting in persistent wet yard condition and/or erosion
Sherren St, 1215	Drainage from street overtopping curb and flowing through private property
Shorewood Ln, 3014	Street floods into yard during large/intense rainfalls
Shorewood Ln, 3065	Poor surface water management resulting in persistent wet yard condition and/or erosion
Shorewood Ln, 3070-3076	Public pipe causes bank erosion
Shryer Ave, 1260	Poor surface water management resulting in persistent wet yard condition and/or erosion
Shryer Ave, 1835	Poor surface water management resulting in persistent wet yard condition and/or erosion
Skillman Ave, 1253	Street floods into yard during large/intense rainfalls
Skillman Ave, 2000	Poor surface water management resulting in persistent wet yard condition and/or erosion
South Owasso Blvd, 340	Poor surface water management resulting in persistent wet yard condition and/or erosion
South Owasso Blvd, 345-317	Poor surface water management resulting in persistent wet yard condition and/or erosion
Victoria St, 2800	Drainage from street overtopping curb and flowing through private property
Woodlyn Ave, 1480 & Clarmar, 1479	Poor surface water management resulting in persistent wet yard condition and/or erosion