

Environmental Protection 8

Introduction

The natural environment is an integral part of Roseville, and protecting it is vital to the success of the community. Wetlands, lakes, ponds, trees, and vegetative cover play an important role in the physical, social, and economic development of Roseville. Many features of the natural environment function as filtration systems to clean rainwater runoff, which eventually becomes our drinking water. In addition to providing cleaner water, natural features help purify the air—especially in the urban environment. Natural features and open space also help define the character of the community and provide a visual relief from the built environment.

Environmental protection is an essential part of community planning. Over the years, many natural features have been impacted to make way for urban development. However, the City has been able, through community efforts, to preserve and create open space, parks, and trails.

The Environmental Protection chapter of the Comprehensive Plan contains the following elements:

- ◆ Goals and Policies
- ◆ Shoreland Protection
- ◆ National Pollutant Discharge Elimination System
- ◆ Surface Water Management
- ◆ Contaminated Soils
- ◆ Waste Management
- ◆ Noise Pollution
- ◆ Sustainability
- ◆ City Housekeeping Methods
- ◆ Implementation

These environmental protection goals, policies, and strategies can be applied to both the public and private sectors to help protect and preserve our natural environment.

Goals and Policies

The preservation, protection, and enhancement of natural resources are vital to a community's health and residents' quality of life. To accomplish this, the City has identified the following goals and policies:

Goal 1: Protect, preserve, and enhance Roseville's water, land, air, and wildlife resources for current and future generations.

Policy 1.1: Enforce all local, regional, and federal codes, ordinances, and laws that protect the environment.

Policy 1.2: Ensure that the natural environment is an integral part of the Roseville urban landscape.

Policy 1.3: Protect and enhance terrestrial and aquatic wildlife habitat, including grasslands, wooded areas, wetlands, ponds, shorelands, and lakes.

Policy 1.4: Preserve and enhance natural resources within public open space by implementing best-management-practices systems, including invasive-plant removal, rain gardens, biofiltration, and native-plant selection.

Goal 2: Maintain the functions and values of the City's drainage features (e.g. lakes, ponds, and wetlands).

Policy 2.1: Protect and improve surface water quality in the City's lakes, ponds, and wetlands to meet established standards.

Policy 2.2: Identify and plan means to effectively protect and improve surface and groundwater quality through good "housekeeping" methods, such as street sweeping sensitive areas and monitoring water quality.

Policy 2.3: Protect, preserve, and utilize surface- and ground-water storage and retention systems.

Policy 2.4: Work with the watershed districts to collect water-quality data on lakes within the city.

Policy 2.5: Promote groundwater recharge by reducing stormwater runoff.

Goal 3: Prevent erosion into the City's lakes, ponds, and wetlands.

Policy 3.1: Require storm-water management and erosion-control plans for urban development and redevelopment projects.

Policy 3.2: Enforce development controls to reduce non-point-source pollutant load in surface water runoff using best management practices, such as rain gardens, biofiltration, and ponding.

Policy 3.3: Continue to cooperate with the Minnesota Pollution Control Agency (MPCA) in enforcing non-point source discharge standards.

Goal 4: Minimize the public capital expenditures needed to correct flooding and water-quality issues.

Policy 4.1: Establish uniform local policies and controls for surface-water management.

Policy 4.2: Work with the watershed districts to enforce appropriate regulations to control surface-water runoff.

Goal 5: Ensure the City takes a leadership role in environmentally friendly property development, redevelopment, and maintenance practices.

Policy 5.1: Design new City facilities and renovate existing City facilities to minimize energy consumption, decrease negative environmental impacts, and encourage third-party certification (e.g. LEED) of these improvements.

Policy 5.2: Maintain and improve infrastructure, including parks, streets, and pathways, in an environmentally friendly manner.

Policy 5.3: Encourage the use of sustainable land treatment activities, such as no-mow grass, organic fertilizers, and native landscaping, on City properties.

Policy 5.4: Preserve, maintain, and increase the City's non-invasive tree stock, whenever possible.

Policy 5.5: Collaborate with other governmental units and groups to identify and help meet environmental targets.

Goal 6: Reduce negative human impacts on the environment through citywide energy conservation and reduction of pollution and waste.

Policy 6.1: Reduce local energy usage by educating community members about energy conservation and its impact on the city.

Policy 6.2: Support environmentally friendly energy options for residential, businesses, and governmental needs.

Policy 6.3: Improve air, water, soil, and sound quality by reducing pollution of all kinds, including traffic, noise, runoff, and excess light; enhance community awareness of environmental impacts.

Policy 6.4: Support citywide recycling, reduction, and reuse of waste materials for both residential properties and businesses.

Policy 6.4: Encourage expansion of items collected through the City's recycling program.

Goal 7: Increase community awareness of environmental-protection issues.

Policy 7.1: Partner with federal, state, and regional government agencies and local school districts to sponsor environmental education and stewardship programs.

Policy 7.2: Promote environmental stewardship through City-led communication avenues, such as the city newsletter, City website, and the local cable-access channel.

Shoreland Protection

The City of Roseville adopted the Shoreland, Wetland, and Storm Water Management Ordinance in 1994 pursuant to Minnesota Statutes. The purpose of the ordinance is to preserve and enhance the quality of surface waters, preserve economic and natural environmental values of shoreland, and provide for the wide utilization of waters and other land resources. The ordinance contains many criteria and standards to control the use of shoreland within the city of Roseville.

National Pollutant Discharge Elimination System

National Pollutant Discharge Elimination System permits regulate wastewater discharges to lakes, streams, wetlands and other surface waters. The Municipal Separate Storm Sewer System (MS4) general permit is mandated by the federal regulations under the Clean Water Act and administered by the Minnesota Pollution Control Agency. In general terms, MS4s are publicly owned or operated storm-water infrastructure, used solely for stormwater, and which are not part of a publicly owned wastewater treatment system. Examples of stormwater infrastructure include curbs, ditches, culverts, stormwater ponds, and storm sewer pipes. The City of Roseville is an MS4.

The MS4 general permit focuses on reducing the pollution that enters these public systems and discharges to wetlands, streams, and lakes (i.e., "waters of the state"). The MS4 permitting program gives owners or operators of municipal separate storm sewer systems approval to discharge storm water to lakes, rivers, and wetlands in Minnesota.

All owners or operators of MS4s are required to satisfy the requirements of the MS4 general permit. Basically, the MS4 general permit requires the MS4 operator or owner to create a Stormwater Pollution Prevention Program (SWPPP) with six important components:

1. Public education and outreach, which includes teaching citizens about better stormwater management
2. Public participation to involve citizens in solving stormwater pollution problems, requiring a public annual meeting and an annual report
3. Plans to detect and eliminate illicit discharges to the stormwater system, like chemical dumping and wastewater connections
4. Construction-site runoff control, including the implementation of an Erosion and Sedimentation Control ordinance
5. Post-construction runoff controls
6. Pollution prevention and municipal "good housekeeping" measures (e.g., covering salt piles and street sweeping)

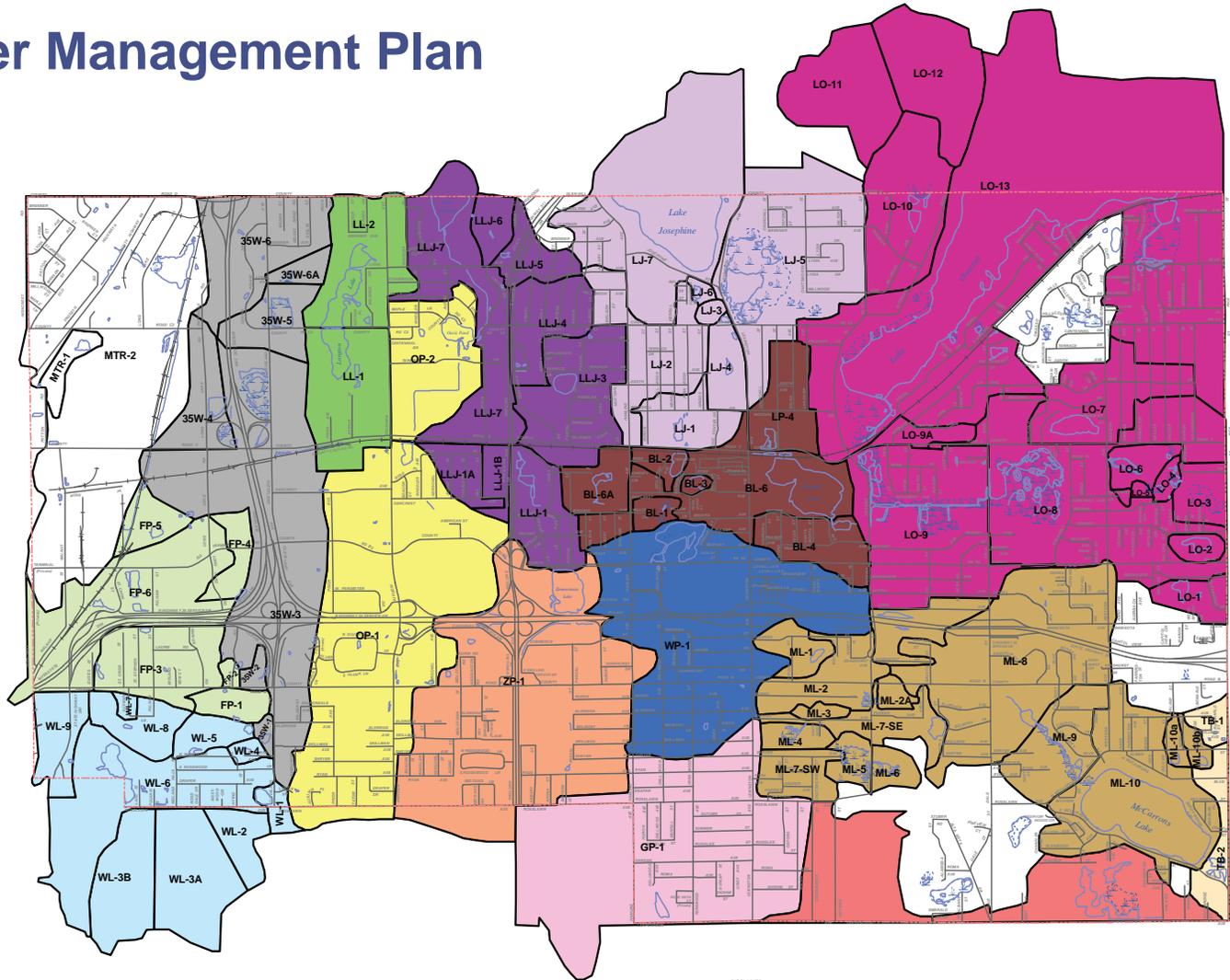
Impaired Waters and TMDL's

The Minnesota Pollution Control Agency (MPCA) is required to publish a list of impaired waters—lakes and streams in the state that are not meeting federal water-quality standards. For each water body on the list, the MPCA is required to conduct a study to determine the allowable Total Maximum Daily Load (TMDL) for each pollutant that exceeds the standards. The 2006 MPCA list of impaired waters identifies 2,250 TMDL reports needed for 1,297 lakes, rivers and streams in

Surface Water Management Plan

Legend

- 35-W
- BENNETT LAKE
- CO. DITCH NO. 10
- FULHAM POND
- GODFREY PIT
- LAKE JOSEPHINE
- LAKE OWASSO
- LANDLOCKED
- LANGTON LAKE
- LITTLE LAKE JOHANNA
- MCCARRON LAKE
- MTR POND
- OASIS POND
- TROUT BROOK
- WALSH LAKE
- WILLOW POND
- ZIMMERMAN LAKE



Prepared by:
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Data Sources and Contacts:
 * Ramsey County GIS Base Map (1/2008)
 * City of Roseville Engineering Department
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0 500 1000 1500 2000 Feet

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 map: SurfaceManagementDistricts.pdf



Surface-Water Management Plan

Figure 8.1

the state. Local governments will be required to incorporate completed TMDL studies into their surface-water management plans and review their SWPPPs to determine if additional best-management practices (BMPs) are needed to comply with the TMDL waste load allocation.

The list of impaired waters is known as the 303(d) list from the applicable section of the Federal Clean Water Act. These waters are ones that do not currently meet their designated use because of the impact of a particular pollutant or stressor. The following water bodies are identified on the state list of impaired waters and receive water from the city of Roseville: Lake Bennett (excess nutrients), Little Lake Johanna (excess nutrients), Lake Josephine (mercury), Lake McCarrons (mercury), and Lake Owasso (mercury). No TMDLs have been developed for these water bodies at this time.

Surface-Water Management

Urbanization alters the natural drainage patterns of rainfall and melting snow. Increased impervious surface area restricts water from entering the soil, which causes more water to exit a site faster than when it was vegetated. If not properly managed, the cumulative effect of this phenomenon leads to increased flooding. Urbanization also adds pollutants to runoff water, which has a negative effect on our water bodies and the life forms that depend on them.

To reduce flooding and improve water quality, the City of Roseville has constructed a comprehensive surface-water-management system as development has occurred. This system relies on open drainage ways, drainage pipe, lift station pumps, private and publicly

constructed retention and detention ponds, and natural wetlands and water bodies. Using these natural systems benefits the City by lowering costs, improving water quality in lakes and streams, saving valuable wildlife habitat, and retaining the beauty of the natural environment. Regulatory agencies, as well as the Metropolitan Council, share Roseville's view on the importance of surface-water management. The City's Comprehensive Surface-Water Management Plan (CSWMP) discusses local methods to further joint goals and policies regarding surface water management while assessing problems and proposing corrective actions.

The purpose of a CSWMP is to:

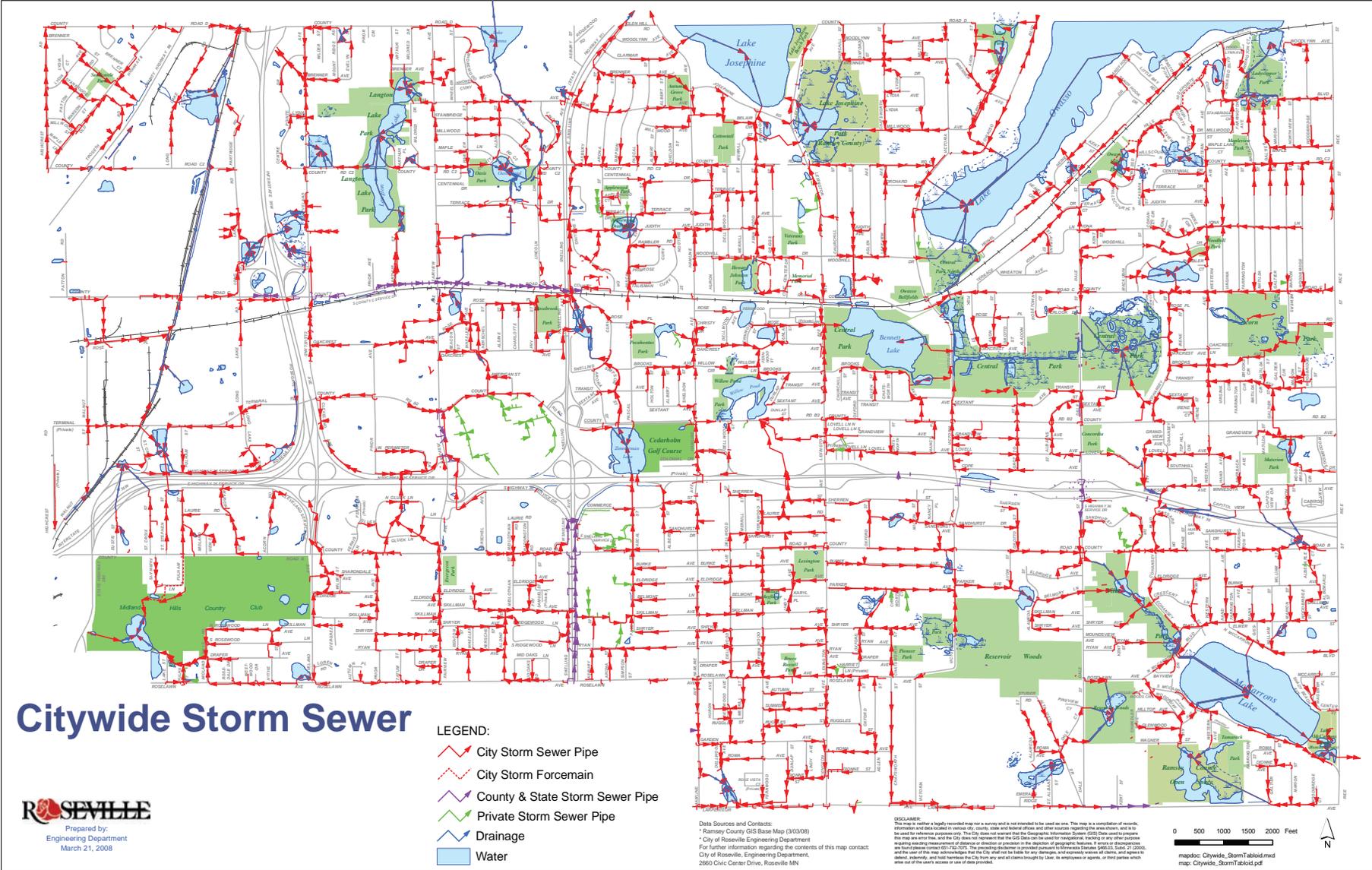
- ♦ Assess existing water quantity and quality issues
- ♦ Assess potential problems and opportunities for natural resource enhancement in light of anticipated development within each watershed
- ♦ Formulate practical strategies to correct existing problems, to prevent potential problems, and to take advantage of opportunities to enhance water-related natural resources

In order to better understand how the surface-water system works, the CSWMP divides the city into sub-watershed areas. The surface-water system and sub-watersheds is shown in Figure 8.1 (Surface-Water Management Plan).

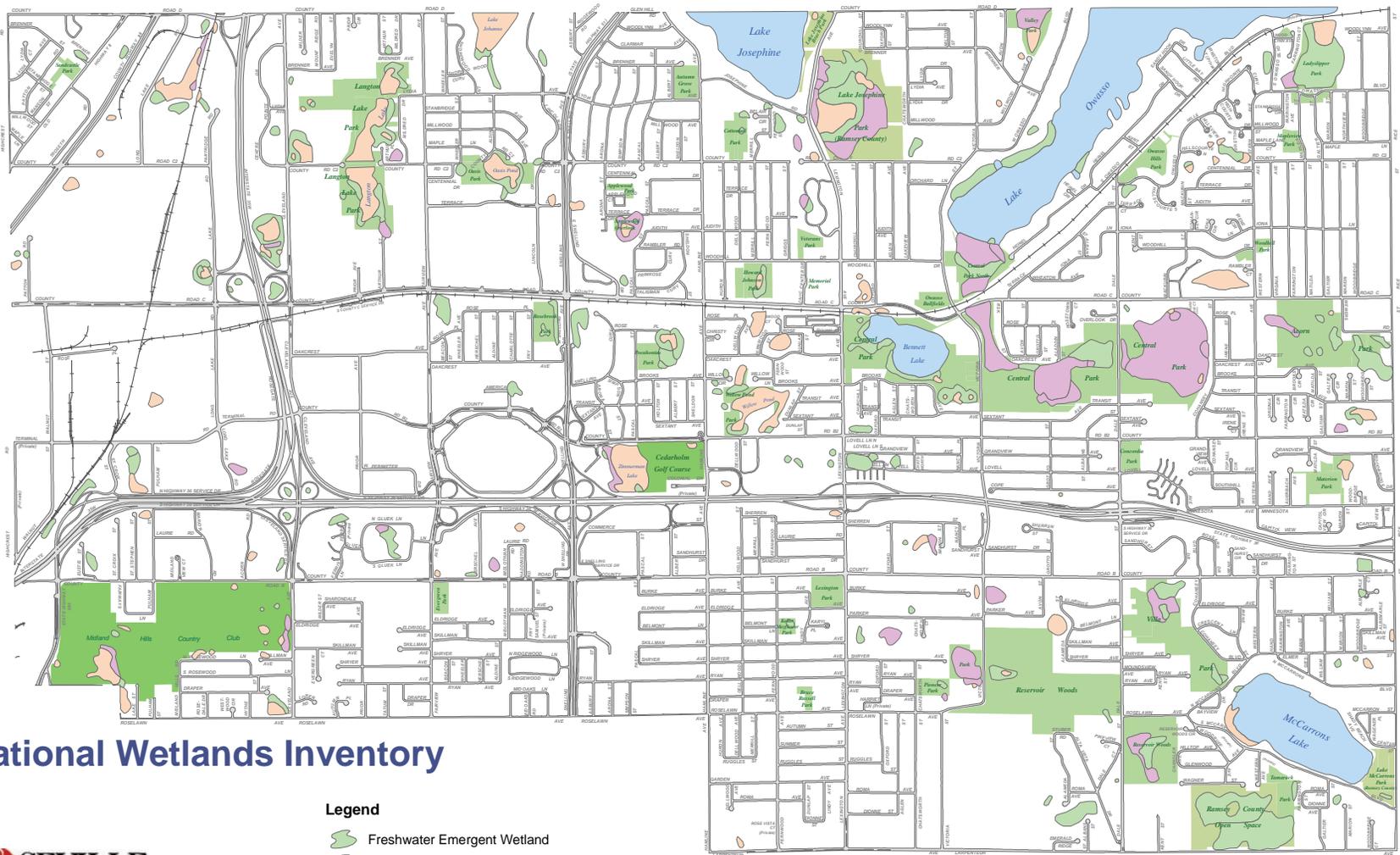
The City's surface-water system is largely completed at this time. Future changes to the system will primarily be retrofitting to address flooding problems or incorporate water quality treatment or adjustments at the time of redevelopment.

The City has completed an inventory of the surface water system within each of these sub-watersheds. This system consists of: 124.32 miles of pipe, 4719 catch basins, 2728 manholes, 128 ponds, 739 inlets and outlets, and six storm-sewer lift stations. The citywide storm-sewer map (Figure 8.2) shows the locations of these facilities and direction of flow.

The City charges property owners a storm-sewer-utility fee that funds the construction and maintenance of this system.



Citywide Storm Sewer
Figure 8.2



National Wetlands Inventory

Legend

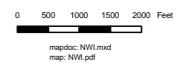
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake



Prepared by:
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July 14, 2008

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National Wetlands Inventory

Figure 8.3

Water Resources

Roseville has within its boundaries a significant number of lakes, ponds, and wetlands. Some of the larger lakes are monitored either through the Metropolitan Council's Citizen Assisted Monitoring Program or MPCA monitoring program. In 2001, water quality sampling for Langton Lake was conducted as part of the development of the City's Natural Resources Inventory and Management Plan (June 2002). In addition, the Ramsey County Lake Management Program conducts annual water-quality sampling and provides data for lakes identified as Priority Lakes, which include Bennett, Josephine, Owasso, and McCarrons.

Key information on each of the priority lakes in the city is summarized in the Table 8.1.

Wetland Protection

The City of Roseville has lost many wetlands over the years to development. These resources are a valued portion of the city's aesthetics and stormwater retention system. The City intends to protect the remaining wetlands and other water bodies to the greatest extent possible and, where feasible, to restore or construct wetlands to increase the amount within the city.

In 1991, the State passed the Wetland Conservation Act (WCA). The intent of the act is to prevent the loss of wetlands within Minnesota. This law is implemented by a local governmental unit (LGU), which can be a city, watershed district, county, or soil and water conservation district. The LGU reviews each project that comes forward within its jurisdiction to ensure that it adheres to the no-net-loss policy. The LGU accomplishes this by applying a set of established steps and criteria to each

Lake	DNR Identification Number	Watershed Area (Acres)	Surface Area (Acres)	Maximum Depth (Feet)	Mean Depth (Feet)
Bennett	62-0048	706	27.5	9	5
Little Johanna	62-0058	N/A	18	40	N/A
Josephine	62-0057	734	118	44	11
Langton	62-0049	212	23	5	3
McCarrons	62-0054	736	68.1	57	N/A
Owasso	62-0056	3022	384.1	37	N/A

Priority Lakes Data Summary

Table 8.1

project, assuring that the proper steps are followed for the selected alternative, and monitoring that the process is carried through in accordance with the WCA. The City acts as the LGU in the Grass Lake Watershed and Capitol Region Watershed areas of the city, while Rice Creek Watershed District is the LGU for the area of the city under its jurisdiction.

Figure 8.3 illustrates the National Wetland Inventory (NWI) for the city. In 2009, the City will build on the inventory to develop and maintain an inventory of wetlands within high-priority areas, such as parks and natural areas. Wetlands will be classified by type and function as well as susceptibility to stormwater impacts. Since 2006, the City has been collecting water quality monitoring data on Bennett Lake, Central Park Ponds and Willow Pond. This monitoring data will be used to develop numeric goals for these wetlands consistent with the Grass Lake Watershed Management Organization Plan in 2010.

Watershed Districts

In 1956, State law created watershed districts and empowered them to work with cities and property owners to improve flood storage capacity and to protect water quality. As depicted in Figure 8.1, Roseville shares land area with two watershed districts and a watershed management organization (WMO). The Rice Creek and Capitol Region Watershed Districts' watershed plans were approved by the Board of Water and Soil Resources (BWSR) in 1997 and 2000 respectively. The Grass Lake WMO watershed plan was approved by the BWSR in 2001.

The challenge with having three different agencies is that it is necessary for the City's local plan to be in compliance with all three of these organizations' plans. Roseville updated its local surface-water management plan in 2003. The City of Roseville's surface-water plan is in accordance with the requirements of the individual watershed district plans for the Roseville area.

Contaminated Soils

One of the issues facing potential developers of property these days is liability due to contaminated soils. Minnesota was one of the first states to address, through statutes, the liability issues associated with buying, selling, or developing property contaminated by hazardous substances. The Minnesota Land Recycling Act of 1992 provides statutory authority to quickly approve cleanup of contaminated properties and provide land owners and lenders assurances that minimize potential liability. The Minnesota Pollution Control Agency's Voluntary Investigation and Cleanup (VIC) program can streamline the time and expense of cleanup that may be required through a normal Super Fund process. The VIC program was established to provide standards for site investigation, MPCA review of the adequacy and completeness of investigation, and approve cleanup plans to address identified contamination. Depending on the type and degree of contamination, the MPCA will provide various levels of assurance to voluntary parties completing response actions, property owners, financial institutions, and future property owners.

The Minnesota Petroleum Release Compensation Fund program has been utilized at several gas stations in the community to clean up contamination from leaking underground fuel storage tanks. This program provides 90% reimbursement of eligible cleanup costs, which include investigation, development of remediation plans, and cleanup of contaminated soils and ground water. It does not cover the costs of tank removal or replacement, or cleanup of non-petroleum tank leaks and spills.

Tax increment financing (TIF) can be a financial tool to assist with cleanup of contaminated soils. The City has used TIF for soil cleanup in the Twin Lakes area,

as well as the Gateway Business Center. Cities can also create a hazardous soil subdistrict within a tax increment district to assist in cleanup. Within subdistricts, the City can capture the frozen base taxes, which normally go to all the taxing districts, to enable the City to carry out a cleanup plan approved by the MPCA. The City currently has created one hazardous soil subdistrict in the Twin Lakes area.

Waste Management

Residential Curbside Recycling

Roseville has contracted for curbside recycling at single-family homes, duplexes, and townhomes since July 1987, and for centralized collection at apartments and condominiums since 2003. The City provides free recycling bins, lids, and wheel kits to residents to encourage participation. Residents are sent an annual mailing to further encourage full participation.

Roseville Cleanup Day

In conjunction with Earth Day, the City of Roseville sponsors a Cleanup Day. This event is held once a year with the intent to collect items that cannot go in regular trash. Items such as appliances, old furniture, batteries, electronics, mattresses, and tires are accepted for a nominal fee.

Household Hazardous Waste

Ramsey County contracts for drop-off sites for household hazardous waste (HHW). There is a year-round collection site in St. Paul and seasonal collection sites in various cities. One of those seasonal sites is on Kent Street in Roseville. It is open on Fridays and

Saturdays in June. The Roseville site is the busiest of Ramsey County's six seasonal sites.

Residents may drop off HHW for free. The County pays for collection and processing of HHW. Waste collection and disposal is funded by the County Environmental Charge, which is assessed on garbage bills. Items considered HHW include fluorescent lamps, mercury vapor lamps, pesticides, mercury thermometers, used motor oil, used antifreeze, paint thinner, paint, wood preservatives and stains, and any other product labeled poisonous, flammable, or corrosive.

Yard Waste

Ramsey County operates seven yard-waste sites including two close to Roseville – one in Arden Hills and one in the Midway area of St. Paul. Residents may drop off yard waste for free. Yard waste includes leaves, grass clippings, and soft bodied plants. Four of the Ramsey County sites including the two closest to Roseville also accept brush for free. Brush includes all branches and tree trunks, but stumps and roots are prohibited.

Noise Pollution

The Roseville City Code addresses noise-control regulations. Because the language in the City Code is general in nature, the City has chosen to enforce noise-level standards established by the MPCA. The State noise rules are based on allowable exterior noise levels and are designed to protect the public by limiting the amount of noise that may occur beyond a property line. To accomplish this, a series of standards were established to control exterior noise levels. The standards have a range of applicability during daytime hours (7 a.m. to

	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7a.m.)
L10	65dB	55 dB
L50	60 dB	50 dB

Residential Land Use State Standards

Table 8.2

10 p.m.) and nighttime hours (10 p.m. to 7 a.m.). As established by State statute, noise levels are measured by decibels (dB) and weighted to represent the human ear’s variable sensitivity to different frequencies.

The standards used by the State of Minnesota also define the amount of time a specific noise level can occur. In Minnesota, the L10 and L50 standards are used. Both represent that percentage of an hour that a noise level may be exceeded. An L10 value equals the noise level that may be exceeded for 10% of the monitoring period or 6 minutes out of an hour while the L50 is the noise level that may be exceeded for 50% of the monitoring period. Noise levels in residential areas must be in compliance with the State standards for residential land use shown in Table 8.2.

Sustainability

Sustainability represents 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. To demonstrate Roseville’s commitment to sustainability, the City Council adopted a resolution on May 21, 2007, endorsing the U.S. Mayors Climate Protection Agreement. Under the agreement,

Roseville has committed to take the following three actions:

- ◆ Strive to meet or beat the Kyoto Protocol targets in the community through actions ranging from anti-sprawl land-use policies to urban forest-restoration projects to public information campaigns.
- ◆ Urge the state and federal governments to enact policies and programs to meet or beat the greenhouse gas emission-reduction target suggested for the United States in the Kyoto Protocol, a 7% reduction from 1990 levels by 2012.
- ◆ Urge the U.S. Congress to pass the bipartisan greenhouse-gas-reduction legislation, which would establish a national emission trading system.

Some steps that the City has taken to date:

- ◆ The completion of an emissions inventory using the Clean Air Climate Protection software. This software was developed for the International Council for Local Environmental Initiatives and is an important tool that helps local governments create greenhouse gas inventories, quantify the benefits of reduction measures, and formulate local climate action plans. Establishing an emissions inventory and setting reduction goals is a part of an overall action plan.
- ◆ In 2008, the City converted the heating and cooling systems at the Roseville Indoor Skating Center and John Rose OVAL to a geothermal system. This system will reduce the use of fossil fuels by utilizing ground-source storage of waste heat from the ice rink refrigeration systems to heat and cool these buildings. As a part of this project, a Campus-wide Geothermal Master Plan was developed to position

the City to convert the City Hall/Police Station and Public Works Facility to a geothermal system in the future. This system would capitalize on additional capacity of the Skating Center system to the benefit of other buildings on the campus.

Sustainability within the Plan

The issue of environmental responsibility and sustainability is discussed throughout Roseville’s Comprehensive Plan. Please see the following chapters for more specific sustainability discussions:

- ◆ Land Use
- ◆ Housing and Neighborhoods
- ◆ Transportation
- ◆ Economic Development and Redevelopment

City Housekeeping Methods

The City is involved in many programs that benefit the environment.

- ◆ Annual Street-Sweeping Program: This consists of early spring sweeping of the streets to remove the sand and salt that has built up over the winter and prevents them from raching lakes and ponds through storm sewers.
- ◆ Leaf Pickup Program: This program takes place in the late Fall. City crews collect leaves from properties of homeowners that register for this program and rake the leaves to the boulevard, which are then transported to the City compost site on Dale Street.

- ◆ **Compost Site:** Roseville residents are allowed to drop off leaves from their yards at the City's compost site during spring and fall seasons. Materials brought to the site are then periodically turned and aerated to speed the composting process. Compost is then available for residents to pick up, free of charge, for use in gardens and for other landscaping activities.
- ◆ **Tree Trimming:** Each winter, City street crews perform an extensive tree-trimming program to maintain boulevard trees throughout the city. This work is completed through a cooperative effort between the maintenance crews and the City forester.

Implementation

In order to achieve the goals and policies discussed in this section, the City of Roseville should use the following strategies:

Foster Environmental Stewardship

One of the most cost-effective and efficient ways to protect the environment is through education. The City sponsors many programs and events on a local and regional level that focus on preserving and enhancing the environment. The City should focus on working with residents, businesses, and schools to identify ways that it can promote environmental awareness, such as developing an educational program that focuses on sustainability, waste reduction, and environmental stewardship.

Ordinances

As a regulatory tool, ordinances can provide standards that define areas or features that need protection or

preservation. They can also introduce regulations to assist in achieving a desired end.

Comprehensive Surface Water Management Plan

The Comprehensive Surface Water Management Plan discusses local methods to further joint goals and policies regarding surface-water management while assessing problems and proposing corrective actions.

The Capitol Region Watershed District completed its Surface Water Management Plan in 2000, and the Rice Creek Watershed District completed its Water Resource Management Plan in 1997. Both watersheds are in the process of updating their watershed plans. Within two years after those plans are approved by the Board of Water and Soil Resources (BWSR), the City will need to prepare a new CSWMP.

Periodic amendments may also be required to incorporate changes in local practices.

Future TMDL Studies

The City recognizes that the responsibility for completion and implementation of the TMDL studies lies with the primary stakeholders contributing to the impairment. The City intends to cooperate with the watersheds in the development of the TMDL studies, acknowledging that the watersheds will take the lead on these studies. It is the intention of the City to fully implement the items/actions identified in future TMDL Implementation Plans, funding the implementation items/actions as necessary.

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