

I. INTRODUCTION

The City of Chanhassen (City) has completed this second generation Surface Water Management Plan (SWMP or Plan) to establish a more useful and up-to-date resource for guiding surface water management activities throughout the City. This Plan builds on the City's 1994 SWMP, and addresses several key issues related to storm water management that the City is likely to encounter in the coming years. This introductory section begins with a brief description of the purpose and basis for this updated Plan, followed by an outline of the major sections of the seven overriding goals that were used to guide development of the Plan.

The City of Chanhassen is located in the southwestern suburbs of the Twin Cities metropolitan area in east central Carver County, with 154 acres in Hennepin County, as shown on Figure 1. The City is bordered by Shorewood, Excelsior and Minnetonka to the north, Eden Prairie to the east, Shakopee to the south, and Chaska and Victoria to the west. The City is located within the jurisdictional boundaries of four watershed management organizations. Cumulatively, lakes, wetlands, streams and ponds account for approximately 26% of the City's surface area.

A. Purpose of the Plan

The purpose of this Plan is to establish the framework of a comprehensive program that does more than simply protect and improve the quality of existing water resources within the City. The Plan also recognizes that development must and will continue well into the future, and will serve as a guide for City staff to follow as they evaluate the potential impacts of a given project on these quality resources. The Plan will serve as a toolbox for the City that includes the best available water resource data at the time it was completed, up-to-date policies and design standards, and a process to adjust goals and policies as new data is collected and evaluated or as complimentary programs change.

B. Basis for the Plan

1. Regulatory Basis

There are a number of programs that deal with surface water management issues in Minnesota. State laws and rules, specifically Minnesota Statutes, Sections 103B.201 to 103B.255 and Minnesota Rule, Chapter 8410 (<http://www.revisor.leg.state.mn.us>), establish the regulatory need to update the City's initial Surface Water Management Plan (Bonestroo Rosene Anderlik and Associates, 1994). These statutes and rules comprise the State's Metropolitan Surface Water Management Program (MSWMP), which requires the preparation of watershed plans by watershed management organizations (WMOs), and the preparation of local water management plans that are consistent with the respective WMO plans. This program also requires municipalities to develop a Second Generation Local Surface Water Management Plan. This program includes the requirement that the City Plan needs to be approved by the WMOs that operate within the City.

A second regulatory program, very much related to the goals, policies and standards of this Plan, is the National Pollutant Discharge Elimination System (NPDES) Phase II Storm Water Permit

Program that is administered in the State by the Minnesota Pollution Control Agency (MPCA) (<http://www.pca.state.mn.us>). This program has many similarities to the MSWMP, and both programs were considered with the Plan update. Additional information on the purposes and background for each of the two programs, including information on the four WMOs that exist within Chanhassen, follows.

a. Metropolitan Surface Water Management Program

The purposes of the MSWMP is that through policies and thoughtful program implementation, goals for proper water and wetland resource management can be realized and water quality can be protected. Such a program requires cooperation with neighboring communities, counties, state agencies, and WMOs. Through proper planning and implementation, informed decisions can be made which allow for the protection and/or enhancement of water quality, prevention of ground water degradation, and reduction of local flooding.

The purpose 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 expenditures needed to correct flooding and water quality problems;
- Identify and plan for means to effectively protect and improve surface and groundwater management;
- Establish more uniform local 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 recreation facilities; and
- Secure benefits associated with the proper management of surface and ground water.

b. Watershed Management Organizations

Under the MSWMP (<http://www.bwsr.state.mn.us>), the City is required to submit its updated SWMP to WMOs having jurisdiction within the City. Chanhassen is located within four major watershed units, including the Minnehaha Creek Watershed District (MCWD) (<http://www.minnehahacreek.org>), the Riley Purgatory Bluff Creek Watershed District (RPBCWD) (<http://www.rileypurgatorybluffcreek.org>), the Lower Minnesota River Watershed District (LMRWD) (<http://www.watersheddistrict.org>), and the Carver County Water Management Organization (CCWMO) (<http://www.co.carver.mn.us/water>). These watersheds are shown on Figure 2A, which illustrates the jurisdictional boundaries of the watershed units.

All four of the WMOs have jurisdictional authority within the City, and therefore each must review the City's Plan to evaluate consistency with the respective WMO Plan. As of August

2006, the MCWD is in the process of updating its Plan, RPBCWD plans to update its Plan in 2006, and CCWMO will update its plan by 2008.

This updated SWMP addresses each of the required elements in Minnesota Statutes and Rules and is consistent with the Metropolitan Council's guidelines for Water Management Plans. The Plan has been prepared to be consistent with the MCWD, RPBCWD, LMRWD, and CCWMO Plans. The criteria set forth in this Plan, as a minimum, establish the degree of performance necessary to achieve improvement in water quality and water quantity management. These criteria are not intended to dictate or preempt the design process, but rather provide guidelines to proper development and redevelopment.

This Plan represents a unique combination of resource management, regulatory controls and public works management. As discussed above, State Statutes and Rules require that a plan be prepared for each watershed in the seven county metropolitan area. Local (i.e., City) plans must also be prepared and approved by the applicable watersheds and reviewed by the Metropolitan Council. Once approved by the WMOs and adopted by council, the Plan becomes part of the City's overall Comprehensive Plan. The Plan is geared towards meeting the mutual goals of all of the WMO's within the City.

2. Related Surface Water Programs

a. NPDES Phase II Storm Water Permit Program

The NPDES Phase II Storm Water Permit Program is a federal regulatory program that requires owners of Municipally Separate Storm Sewer Systems (MS4s) to prepare and implement a Storm Water Pollution Prevention Program (SWPPP) and apply for the permit with the administrative agency. The Minnesota Pollution Control Agency (MPCA) administers the Phase II MS4 program in the state (<http://www.pca.state.mn.us>). The City submitted their permit application and SWPPP prior to the March 10, 2003, initial submittal deadline. A revised permit was issued by the MPCA in 2006 and the City completed a revised SWPPP during the final stages of this SWMP update. This SWMP does not specifically incorporate all of the best management practices (BMPs) identified in the City's SWPPP. Instead, the Plan builds on these existing activities by specifying projects and management approaches to achieve the City's water resources goals.

One step in meeting the Phase II requirements included a self assessment process that the City completed to prepare their Notice of Intent (NOI or permit application) for coverage under the NPDES MS4 Phase II. In this process, the City considered receiving waters, the City's existing storm water management plan, and a range of BMPs that could be followed to achieve the MS4 permit requirements. The self assessment resulted in an understanding of the City's current storm water programs and future priorities. A key part of this SWMP update was the completion of an initial inspection of outfalls and inventory of the City's storm water infrastructure. This inventory is discussed more in Section II and III of the Plan. Appendix I contains a summary of the City's NPDES Program SWPPP.

b. Wetland Management Plan

Additionally, as part of the SWMP update, many components of a comprehensive wetland management plan (CWMP) were completed and are summarized in Section V of this Plan. While the result of this Plan update was not establishment of a CWMP under the state rules, several of the major efforts were consistent with the state rules. Included in this effort was the completion of a Minnesota Routine Assessment Method Version 3.0 (MnRAM 3.0) evaluation for essentially all wetlands within the City. A draft wetland ordinance was also prepared and is provided in Appendix K. The data presented in this Plan serves as an update to the City's 1994 Wetland Inventory.

C. Water Resources Related Agreements

The City of Chanhassen has an agreement with the Carver County Soil and Water Conservation District (CCSWCD) that states the CCSWCD will assist the City in performing Erosion and Sediment Control Inspections at construction projects in the City. The City also has an agreement for the Citizen Assisted Monitoring Program (CAMP) that includes monitoring at 4 lakes within the City; Lake St. Joe, Lotus Lake, Lake Susan, and Lake Riley.

D. Plan Overview

One of the first steps taken to develop this Plan was to gather and compile the best available information and data from a number of resources. Sources of these data include the City's *1994 Surface Water Management Plan*, the WMO plans, MPCA NPDES Program and other relevant sources. This data and information was then reviewed and evaluated as part of the update process. See Appendix C for a summary of the information reviewed and evaluated. Following this Introduction section, subsequent sections address the background, history and description of the existing physical environment (Section II); goals and policies (Section III); key water bodies within the City (Section IV), wetlands management and inventory (Section V), and establish an implementation plan to guide future projects and management activities for the protection and future enhancement of the City's water and wetland resources (Section VI).

Using the seven goals presented in Table 1, the Plan is intended to guide surface water resource management activities through about the year 2020. Though long term in focus, the Plan has numerous future decision points relating to recommended capital improvements and ongoing inspection, maintenance and monitoring activities. Where applicable, staff and financial resources of the City, WMOs, and adjacent communities are called on to maximize the effectiveness of the results. The Plan was developed recognizing the need to prioritize management actions and decisions based on the protection level of a given receiving water (i.e., lake or wetland), as established by the City.

Table 1. Plan Goals and Goal Statements

Goal Number	Goal	Goal Statement
1	Water Quantity	Provide at least 100-year (1% chance) flood protection for all structures.
2	Water Quality	Achieve water quality standards in lakes, streams, and wetlands consistent with their designated uses and established classifications.
3	Wetlands	Protect and rehabilitate wetlands to maintain or improve their function and value.
4	Erosion and Sediment Control	Minimize soil erosion and sedimentation.
5	Financing	Establish and maintain funding sources to finance activities of this Plan.
6	Regulatory Responsibility	Maintain primary responsibility for managing water resources at the local level but continue coordination and cooperation with other agencies and organizations.
7	Public Education and Information	Provide information and educational resources to improve knowledge and promote an active public role in management of water resources.

E. Plan Development Process

The updated Plan was developed over about a twenty month period starting in December 2004 and wrapping up in August 2006. The process included many steps and coordination, including significant efforts by members of a City Task Force, informal and formal meetings with the Technical Committee, City Council and Planning Commission, and a public hearing to allow residents an opportunity to provide input in the planning process. The key milestones are summarized directly below and a more detailed description of each major step follows.

<u>Milestone/Activity</u>	<u>Date</u>
Task Force Meetings #1 to #6 (Monthly)	Aug. 2005 – Jan. 2006
Draft #1 - Delivered to Staff/PC/CC	January 18
Planning Commission/Council Joint Meeting	February 13
Task Force Meeting #7 – Review Comments	February 15
Internal Review Process Completed for Draft #1	February 15
Revise and Prepare Agency Review Draft – Complete by	March 27
Draft #2 - Deliver to Agencies for Review	March 27
1 st Planning Commission Meeting – Open Public Hearing	April 4
2 nd Planning Commission Meeting – Close Public Hearing	May 2
60-Day Agency Review Period Ends	May 5
Respond to Agency Comments, Gain Approvals	August
Final Planning Commission Meeting – Close Public Hearing	August 15
Final Council Meetings – Adoption of Plan	August 28
Draft #3 - Delivery of Final Plan (after Adoption by Council)	September

1. 1994 Plan Information

The first step in the plan development process was to use the 1994 Plan as a basis, and review and compile the information available as related to the City's surface water system and resources. As part of the 1994 Plan the City completed a HydroCAD model that included all of the surface water features and several proposed storm water ponds. The City also completed a wetland inventory, and established water quantity and quality standards for future development. The information in the 1994 Plan was reviewed and used as a starting point in the completion of the Plan update. In addition to the 1994 Plan and the technical information available, the City also gathered valuable information from the Task Force that was created as part of the Plan update. See Appendix C for a list of the materials reviewed for this Plan.

2. SWMP Task Force

The Task Force was formed by the City to assist in the Plan update process. The Task Force was made up of individuals from the City Council, Environmental Commission, Planning Commission, Park and Recreation Commission, and three citizens-at-large. One of the citizen members also served on the 1994 Plan Update Task Force. The Task Force participated in seven meetings with City Staff, assisted in establishing the goals and policies of the Plan and spent numerous hours of their own time to help produce this 2006 Plan. Their efforts and dedication in assisting the City with the Plan update are greatly appreciated.

a. Vision Statement for the SWMP

The Task Force developed the following vision statement for the Surface Water Management Plan to provide a backdrop for current and future users of the plan. The purpose of the vision statement is to convey to the reader the ideas that guided the work of the Task Force and the major themes that developed in the course of the Task Force's discussions.

Task Force Vision Statement

Because water covers approximately 26% of the land within Chanhassen, a commitment to maintaining and improving the City's surface water resources is essential. Demonstrating this commitment should be a priority for the City in its municipal operations. The management of City facilities, equipment and property should reflect an emphasis on preserving and enhancing the quality of the community's water resources. The City should only expect protection and improvement of water resources by others (including residents, businesses, developers and contractors) if the City demonstrates those same values in its day-to-day operations.

The City's commitment to water resource preservation and enhancement should be demonstrated through the use of appropriate best management practices in its capital projects, as well as its general operations. The City should continue to investigate and implement, where appropriate, new methods for water resource management. Ordinances and funding should be adequate to support the goals, policies and capital improvements set forth in this Plan.

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Task Force Vision Statement *(continued)*

Simply stated, the vision of the task force is for the City to set the bar for water resources protection in Chanhassen and for others to follow the City's example. Five major themes that support this vision have been identified:

1. Chanhassen must set realistic goals, and measure and report progress annually. In the decade that has passed since the first SWMP was adopted, several of the original goals and policies have been found to be unrealistic. These items have been revised to reflect more attainable, manageable expectations. Where possible, it is also important for the City to be able to quantify its progress. To that end, a system for measuring and reporting progress toward the SWMP goals on an annual basis is necessary. Only when the City is accountable for its management of surface water will the goals set forth in this plan be truly realized, and the plan update will be a more valuable document.

2. Chanhassen must prioritize improvements and finance the surface water management fund to a level that will facilitate implementation of priority improvements, goals and recommendations of the plan. Funding should be based on the need for resource protection and the implementation of recommended improvements. As costs of materials, land and labor continue to increase, the surface water management plan's goals and recommendations may become difficult to achieve if financial considerations are not kept in mind.

3. Chanhassen must protect its "Crown Jewel" resources. The City of Chanhassen has many natural resources within its borders. Two of them have been identified by the City and others to be of exceptional natural resource value. Assumption Creek and the Seminary Fen should be considered the "crown jewels" of Chanhassen and must be priority resources with regard to this Plan. City policy and operations should work together with the regulations of other agencies to protect these resources to the greatest extent practicable.

4. Chanhassen must protect and improve degraded resources within developing areas of the City. The City of Chanhassen has been experiencing rapid growth and must consider the water resources as a priority during development. It will be easier and less costly to protect and improve resources by anticipating future difficulties and enacting more stringent requirements as development occurs instead of going back later to resolve problems by retrofitting. To achieve this, it is necessary to ensure that commissioners and council members are well-informed, educated about water resources and have the technical assistance necessary to anticipate water resource issues and to implement the City's regulations effectively.

5. Chanhassen must remain committed to improving the process for making water resource related decisions through continued education. Local government officials, City employees, consultants, developers, contractors, local businesses, school children and the general public should receive consistent, clear information through a well-developed water resources education program. This can be accomplished in part through means such as the City's website, the Chanhassen Connection, Cable Channel 8, presentations to the City's council and commissions by staff and others, printed materials, and cooperation with other educational professionals.

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Task Force Vision Statement (continued)

Complicating the City's ability to work toward this vision is the fact that surface water regulations, with implications for the City, are in a period of transition. Additional requirements and standards that are implemented in the future by local, state and federal agencies cannot be completely known or anticipated during any plan update. However, this surface water management plan should be a living document that can direct water resources management and planning activities for years to come.

By working together with a shared vision, this Plan will help the City of Chanhassen and those who live and work here not only protect but also improve the water resources that are integral to this community.

3. Technical Committee

Additionally, a Technical Committee consisting of representatives from the WMOs, Carver County, Board of Water and Soil Resources (BWSR), and the Department of Natural Resources (DNR) was also formed. The team attended two meetings with City staff to go over the goals, policies, and design standards of the SWMP update.

4. Internal (City) Review

Based on the input and guidance received through the Task Force and Technical Review Team, a Draft Plan was prepared for internal review by staff, the Task Force members, the Planning Commission and City Council. Comments were collected from this review and incorporated into the Plan.

5. Agency and Public Review

Once the internal review was complete, an Agency Review Draft of the Plan was prepared and submitted to the agencies and WMOs that have jurisdiction in the City of Chanhassen for their review and comment. In addition, the Plan was made available for public review during this period, including a formal Public Hearing process. Once this review was complete and the SWMP was finalized, the Plan was adopted by the City Council.