Provide for Beneficial Uses of Water and Related Resources

Goal 4 **To efficiently serve many uses including the safety and enjoyment of the watershed's residents.**

Objectives

4.1 To establish uniform local policies and controls for surface and groundwater management.

4.2 To secure the other benefits associated with the proper management of surface and ground water.

4.3 To use sound scientific principles for the protection of public health and welfare and the provident use of natural resources.

Introduction

Conversion of crop land, grazing land and forest land to other uses can fragment landscapes and diminish their values for agriculture and forest uses, water management, wildlife habitat and aesthetic purposes.

The rate of development and land conversion accelerated from 532 acres per year between 1990 and 2000 to 840 acres per year between 2000 and 2006 to approximately 465 acres per year between 2006 and 2010.

As the watershed shifted from predominantly agriculture towards a mixed urban/suburban landscape, land values escalated, and management of water and related resources became more challenging.

A healthy watershed begins with a healthy landscape and soils. Landscape quality is the capacity of the landscape to sustain plant and animal productivity, maintain or enhance water quality and support human health and habitation. A high quality landscape is the foundation of productive cropland, forest land and development.

The dynamic nature of water and related land resources means that landscape quality is affected by management. Controlling erosion, minimizing soil disturbance, compaction or oxidation, and managing plants and soil organic matter are all essential to maximizing watershed quality and function for agriculture, development and other beneficial uses.

Current Situation

Urban development within the watershed is continuing albeit at a much slower pace. More isolated large-lot housing development is project to occur beyond the MUSA. If recent development patterns continue, there will be larger homes, on larger lots, farther from the older fully developed portions of the watershed.
The 2000 – 2010 Comprehensive Plan established uniform local policies and controls by requiring that the withdrawal of ground water and the location and place of discharge thereof conform to the standards of the Minnesota Pollution Control Agency, the Department of Natural Resources, and the Department of Health code (1.13, Subd. 1).
Uniform policies and controls are also achieved through the Wetland Conservation Act.

Because of many water resource issues such as flooding across municipal boundaries, cities have looked to or rely upon the Watershed District for development plan reviews, particularly when public ditches and wetlands are involved.

Changes in land use typically result in increases in the volume of runoff and shortens the period in which runoff occurs. In low gradient systems, such as Coon Creek, this can contribute to flooding both upstream and downstream from the land use change by exceeding the capacity of the original water conveyance system to handle the additional water.

At present the District approaches the issue of compatibility on a performance basis by seeking to ensure that changes in runoff rates and volumes do not interfere with established land uses by either exceeding the capacity of the channel to convey water or the design capacity of the ditch to remove soil water to ensure agricultural drainage.

Strategies to Achieve the Goal

Development Regulation

Apply scenery management principles in all Watershed District activities where appropriate and practicable.

To provide for development and management of sites consistent with the available natural resources to provide a safe, healthful, aesthetic atmosphere.

Encourage water recreation opportunities that meet the public needs in ways that are appropriate to the Watershed District role and are within the capabilities of the resource base.

Manage riparian areas under the principles of multiple-use, while emphasizing protection and improvement of soil, water, and vegetation, particularly because of their effects upon aquatic and wildlife resources.

Give preferential consideration to riparian dependent resources when conflicts among land use activities occur.

Determine the effects of fluctuations in water levels, quantities, and timing of flow in relation to habitat of fish, waterfowl, mammals, and aquatic organisms, and to maintenance of phreatophytes and other riparian vegetation.

Do not rely on management practices to provide pure drinking water. Use only proven techniques in management prescriptions for municipal supply watersheds.

Include use restriction clauses in all permits, or other documents authorizing use within the watershed.

Manage the reclamation of lands disturbed by mineral and associated activities in order to:

1. Minimize the environmental impacts resulting from mining.

2. Ensure that disturbed lands are returned to a use that is consistent with long-term water and related resource management

Conduct a study of the surficial groundwater within the watershed that addresses aquifer productivity, aquifer drawdown on the annual and seasonal basis, losses due to evapotranspiration and their relation to the water balance of the area.

Reclamation shall be an integral part of Plans of Operation that propose surface disturbance.

All lands disturbed by mineral activities shall be reclaimed to a condition that is consistent with water and resource management plans, including applicable State air and water quality requirements.

All reclamation requirements included in a Plan of Operations shall include measurable performance standards. Reclamation requirements shall be those reasonable, practicable, and necessary to attain standards.

Reclamation shall be undertaken in a timely fashion and occur sequentially with on-going mineral activities.

Reclamation bonds, sureties, or other financial guarantees shall ordinarily

	be required for all mineral activities that require a Plan of Operations; dollar amounts of such guarantees shall be sufficient enough to cover the full cost of reclamation. To the extent practicable, reclaimed land shall be free of long-term maintenance requirements.
Operations and Maintenance	Apply scenery management principles in all Watershed District activities where appropriate and practicable. Manage riparian areas under the principles of multiple-use, while emphasizing protection and improvement of soil, water, and vegetation, particularly because of their effects upon aquatic and wildlife resources. Give preferential consideration to riparian dependent resources when conflicts among land use activities occur.
Drinking Water	Do not rely on management practices to provide pure drinking water. Use only proven techniques in management prescriptions for municipal supply watersheds.
Planning, Programming and Budgeting	Inventory, evaluate, manage, and, where necessary, restore scenery as a fully integrated part of the ecosystems of the Watershed District and of the land and resource management and planning process.
Aesthetics	Employ a systematic, interdisciplinary approach to scenery management to ensure the integrated use of the natural and social sciences and environmental design. Apply scenery management principles in all Watershed District activities where appropriate and practicable.
Recreation	To ensure safe water quality for designated primary contact recreation areas. Develop prescriptions on a case-by-case basis to ensure desired multiple-use outputs while recognizing domestic water supply needs.
Drinking Water	Manage Watershed District water resources for multiple-uses by balancing present and future resource use with domestic water supply needs. Identify minor sub-watersheds providing water within the drinking water supply Management Area as defined in the City's well-head protection plan or 1 year travel time of municipal and other public wells and water supplies during land management planning.

Develop prescriptions on a case-by-case basis to ensure desired multiple-use outputs while recognizing domestic water supply needs.

Do not rely on management practices to provide pure drinking water. Use only proven techniques in management prescriptions for municipal supply watersheds.

Determine increased costs of any unusually restrictive practices required to meet state-approved Best Management Practices for protection of drinking water; identify any revenue losses from applying such restrictions.

Support the development of the County Geologic Atlas and encourage digitizing the data associated with the Atlas.

Show municipal water supply areas as 'special management areas' in the Comprehensive plan when management intensity and timing differs from other areas.

Mitigate the impacts of groundwater overdraft, including subsidence and increased power costs for pumping water from greater depths through a conservation pricing strategy.

Estimate Groundwater Storage and Supply within the Watershed.

Public & Governmental Relations

Provide for recreation-related opportunities for responsible use of water and related resources within the District.

Provide for opportunities for a variety of recreational pursuits, with emphasis on activities that harmonize with water and related natural environment and are consistent with the applicable land uses.

Mitigate adverse impacts of recreational uses on water and related resources through education, and on-the-ground management, including rule enforcement.

Inform the public of use restrictions that may be imposed on municipal water supply and reasons for restrictions.

Designate restricted municipal water supply areas on maps prepared for public use.

Encourage the use of renewable water supplies instead of continued over-reliance on finite groundwater supplies.

Decrease the waste of groundwater through sensor based drip or trickle

irrigation technology plus mulching.

Support Proper Abandonment of Unused Wells.