

**CHAPTER 3
ENVIRONMENTAL PROTECTION PLAN**

ENVIRONMENTAL PROTECTION PLAN

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ENVIRONMENTAL PROTECTION PLAN

I. OVERVIEW

The City of Chaska is rich in natural beauty and resources. Its landscape is gently rolling to hilly, with significant concentrations of woodland, especially along the river floodplains, creek ravines, river bluffs and other areas of steep slopes. The East and West Chaska Creeks carry surface run-off water to the Minnesota River, which forms the south edge of the City. The creeks' main and tributary channels have been protected as an extensive wooded ravine system throughout most of the City. The steep and wooded Minnesota River bluff is very apparent as it rises approximately 100 feet above the large river floodplain below. In addition to Lakes Bavaria and Hazeltine, several smaller man-made lakes exist, as well as numerous wetlands and ponds.

The City's systems of environmental resources/features are extremely valuable for both functional and aesthetic purposes. For example, wetlands serve as natural stormwater retention areas during run-off periods. They also serve as natural habitat and movement corridors for numerous species of plant and animal wildlife. In recent years, their positive impact on residential environments has also been recognized. This combination of functional and aesthetic values applies to most other environmental resources; including, woodlands, steep slopes, lakes, and the creeks system.

General Environmental Policies

- 1) The City's significant environmental resources shall be preserved for their functional value as well as their positive aesthetic impact upon proximate urban development.
- 2) Urban development shall be encouraged in such a manner that it preserves the City's significant environmental resources, while also maximizing their positive impact upon such urban development.
- 3) New urban development shall use the Environmental Features Map **(Figure 3.4)**, where appropriate, as a basis for preserving significant environmental features, including natural resources, wildlife corridors, open spaces, and viewsheds.

II. DRAINAGEWAYS / FLOOD CONTROL

The bulk of the City of Chaska is within the East Chaska Creek watershed, while the southwest portion is within the West Chaska Creek drainage area. Both

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watersheds drain to the Minnesota River at the south limits of the City (see **Figure 3.1**). Much of the East Chaska Creek ravine system is owned by the City of Chaska, primarily as a result of State and Federal open space grants obtained in the early and mid-1970s.

The U.S. Corps of Engineers and Minnesota DNR have delineated floodplains of the Minnesota River and Chaska Creek. The City adopted a Flood Protection Ordinance in 1976, which established regulations within the "100 Year" floodplain based on a Floodway District and a Flood Fringe District. No structures for human habitation are permitted within the Floodway District portion of the floodplain.

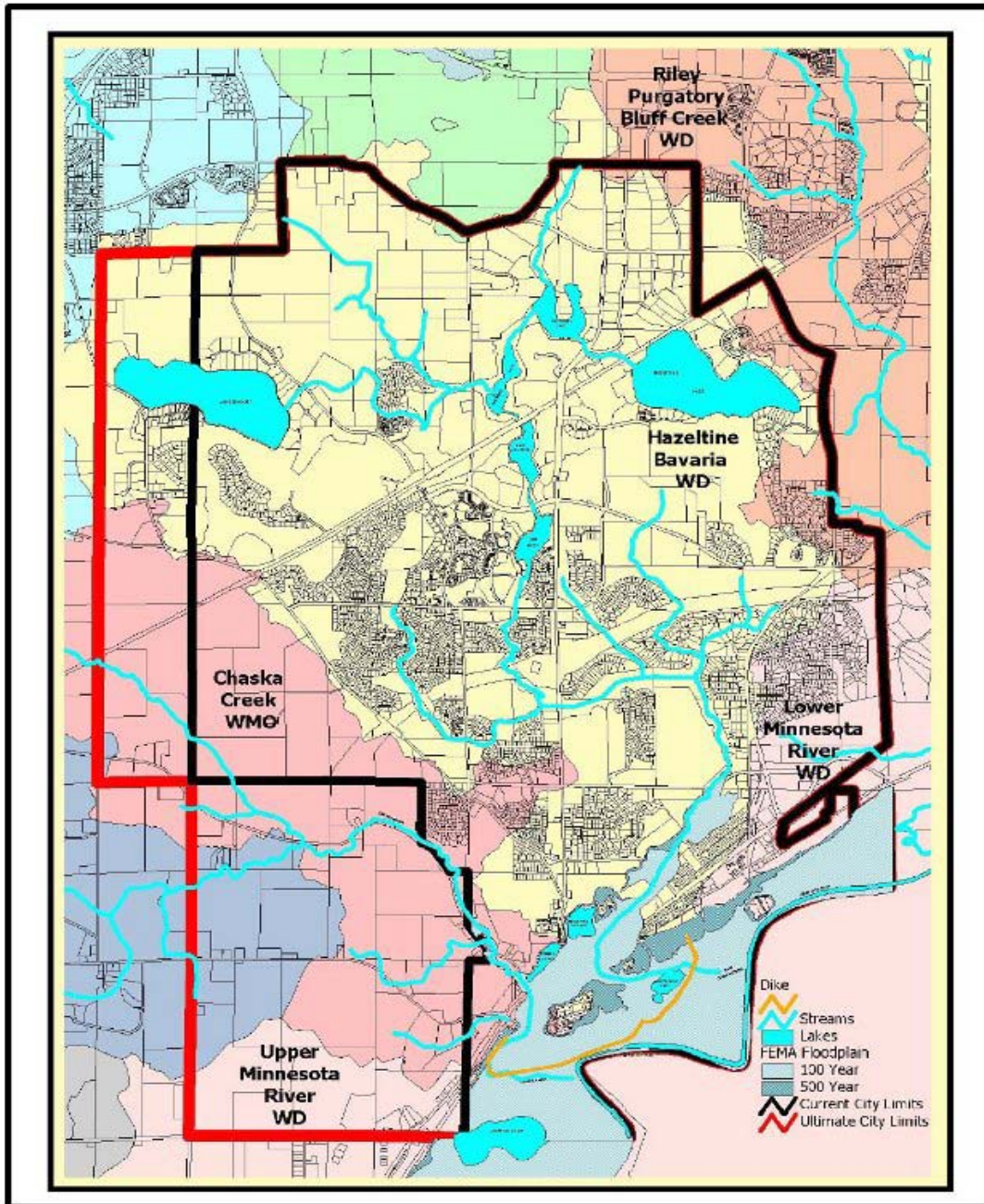
A. FLOOD CONTROL / PREVENTION

Like many older communities along the Minnesota River, Chaska has suffered substantial property damage from periodic floods. Major floods occurred in 1951, 1952, 1965, and 1969. After the 1952 flood, the City constructed a dike around the old town area. In 1965, the largest flood recorded at Chaska overtopped the dike by five feet. Subsequently, the dike was raised another four feet. Major damage was averted in 1969 by sandbagging and pumping seepage.

Congress authorized a flood control project in Chaska in 1976, but construction did not start until 1989 with the final stage completed in 1998. The project included a variety of measures to reduce flood damage along the Minnesota River and East and West Chaska Creeks. It also included trails and other recreational features to enhance recreation opportunities in the area. Principal features of the project (see **Figure 3.1**) were:

- 1) Improve and extend the existing dike.
- 2) Construct a West Chaska Creek diversion channel leaving 0.4 miles of existing channel to carry local run-off only.
- 3) Construct a major East Chaska Creek bypass channel leaving 2.3 miles of the existing channel to carry local run-off only.
- 4) Construct 1.5 miles of paved recreation trails on top of the dike and around Courthouse Lake. The lake will be protected from flooding to preserve the trout fishery maintained by the State DNR.

Drainageway & Flood Control



City of Chaska, Minnesota
2030 Comprehensive Plan
Community Development Department

Data Source:
City of Chaska
Metropolitan Council

May 2009

Figure 3.1

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- Figure 3.1 -

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Remaining undeveloped and unprotected portions of the river and creek floodplains will be subject to existing floodplain regulations.

While the primary benefit of the flood control project was protection of property from flood damage, it also eliminated the Flood Fringe District from lower Chaska, which placed significant restrictions on new development and expansion or remodeling of existing buildings. Previously, buildings in the Flood Fringe District could not be enlarged nor could they be improved/remodeled beyond 50 percent of their value unless elevated or flood proofed. In most cases, such remedies were not physically or economically feasible.

In summary, the flood control project prevents property damage due to flooding, allows the development of lower Chaska to be completed, permits former Flood Fringe District commercial properties to be redeveloped, and allows the value of former Flood Fringe District residential and commercial properties to be maintained and enhanced.

B. SURFACE WATER MANAGEMENT PLAN

The City of Chaska has a Local Surface Water Management Plan (LSWMP) that serves as a comprehensive planning document to guide the City in conserving, protecting, and managing its surface water resources. Chaska's current LSWMP was last updated in December 2007 by Bonestroo and formally adopted by the City Council on February 4, 2008. The current LSWMP is intended to provide guidance for the City's surface water system through the end of 2016. Refer to Chapter 10 for a full summary of the LSWMP. The City has diligently followed its surface water management plan to guide development and redevelopment activities but also as a guide for identifying and implementing retrofits to the existing system.

The City of Chaska has been successful in maintaining its natural drainage patterns throughout most of its development. The City's goal is to foster continued optimum use of that natural drainage system while enhancing the overall quality of water entering lakes and wetlands. The intent is to prevent flooding while using identified Best Management Practices (BMPs) to enhance surface water quality with minimal capital expenditures by the City. The LSWMP provides clear guidance on how Chaska intends to manage surface water in terms of both water quality and quantity.

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C. PUBLIC WATERS, DNR

Minnesota DNR has classified the Minnesota River, East Chaska Creek, and West Chaska Creek as "Public Waters". Any change in the course of these waterways requires a permit from the DNR.

Drainageway / Flood Control Policies

- 1) Existing floodplain regulations applicable to the Minnesota River and Chaska Creeks shall be aggressively enforced.
- 2) The natural drainage systems consisting primarily of the East and West Chaska Creeks and their tributaries shall be preserved and protected for their functional values as drainageways and wildlife movement corridors.
- 3) Valleys and ravines formed by the drainage system shall be preserved in their natural state for functional and ecological reasons as well as for their aesthetic value.
- 4) As urbanization occurs within the various drainage areas, stormwater run-off retention facilities shall be provided so that the normal run-off rate from undeveloped land is not increased. Without such retention ponds or basins, creek flowage would be substantially increased, causing severe erosion and flood damage safety problems, and water quality is degraded.

III. LAKES / WETLANDS

The City of Chaska contains a wide variety of lakes and wetlands. Several Federal, State, and local agencies have regulatory powers over public lakes and wetlands in Chaska.

Chaska contains two relatively large open water lakes — Lake Bavaria and Hazeltine Lake. Both lakes drain into East Chaska Creek. Lake Grace, Jonathan Lake (Upper Lake Grace), McKnight Lake, and Big Woods Lake are man-made lakes created by impounding Chaska Creek flowage. Several "clayhole" lakes exist within the old town area, left over from earlier years when brick manufacturing operations were active in Chaska, including Courthouse Lake, Firemen's Lake, and Clayhole Lake (Brickyard Lake). Chaska Lake, which

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straddles the southern border of the City within the Minnesota River floodplain, is also within the U.S. Fish and Wildlife Refuge Area, Chaska Unit.

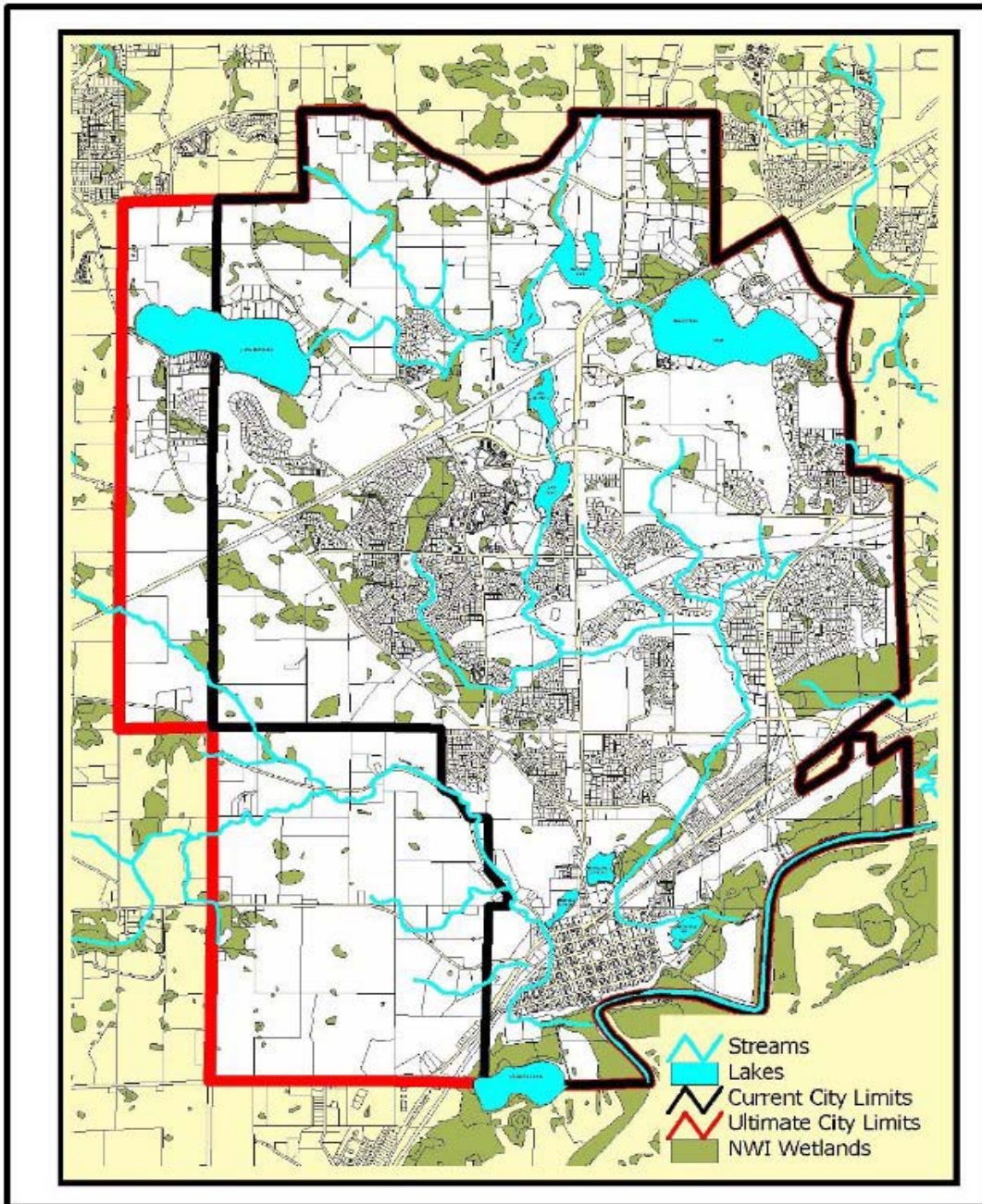
Jonathan Association, the City of Chaska, or Hazeltine Golf Club owns much of the shoreland around Lake Hazeltine. The City owns a one-half mile length of shoreland on Lake Bavaria. The City owns the entire frontage of Lake Grace, Jonathan Lake, McKnight Lake, and most of Big Woods Lake. The County and the City also own land around the four clayholes.

The Minnesota DNR has designated five lakes in Chaska as "Public Waters": Bavaria, Hazeltine, Chaska, Courthouse, and Firemen's (the clayhole in Firemen's II Park). The DNR has also surveyed and classified the wetlands in Minnesota according to the standard classification system of the U.S. Department of the Interior, Fish, and Wildlife Service. Lake Grace, Jonathan Lake (Upper Lake Grace), McKnight Lake, Big Woods Lake, and Clayhole Lake (Brickyard Lake) are classified as "wetlands" along with other significant wetlands within the City. These public lakes and wetlands (Types 3, 4, or 5) are protected by the DNR (see **Figure 3.2**). Any disruption to a public water or Type 3, 4, or 5 public wetland requires a permit from the DNR.

Under Section 404(e) of the Clean Water Act, the U.S. Corps of Engineers has broad discretionary authority regarding wetland protection. While the DNR limits its regulations to wetlands over 2.5 acres in size, the Corps' authority is not limited to size or to only wetland Types 3, 4, and 5. When a development is proposed, the Corps reviews it to determine if wetland protection measures are required.

The State of Minnesota enacted a Wetland Conservation Act in 1991, which regulates wetlands as defined and delineated by the 1989 Federal Manual for Identifying and Delineating Jurisdictional Wetlands. The State Board of Water and Soil Resources (BWSR) administers these regulations, but the authority to manage and enforce wetland regulations in Chaska has been delegated to the City as the designated Local Government Unit (LGU). When development is proposed which will potentially impact a wetland regulated by the WCA, the City requires an on-site survey by a qualified person to identify and delineate the wetland in detail. The 1989 National Wetlands Inventory (NWI) map prepared by the U.S. Fish and Wildlife Service is used as a general guide to identify wetlands that are regulated by the WCA.

Wetlands



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2030 Comprehensive Plan
Community Development Department

Data Source:
City of Chaska
Metropolitan Council

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Figure 3.2

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Lakes / Wetlands Policies

- 1) Lakes and wetlands are part of the natural ecosystem that provide areas for water retention, natural filtering of stormwater runoff, and natural habitats for plant and animal wildlife. If properly maintained, they can also provide important educational and recreational assets, conserve the natural beauty of the landscape, and enhance property values.
- 2) Lakes and wetlands shall be considered an integral part of the City's storm water drainage system. Alteration for ponding purposes may potentially occur but should be accomplished in such a manner that wildlife habitat is preserved or strengthened.
- 3) When areas in proximity to regulated lakes and wetlands are proposed for urbanization, detailed site plans shall be required to demonstrate how the resource will be protected from potential negative effects from urban development.

IV. SHORELAND MANAGEMENT

The State DNR requires local governments to adopt and enforce shoreland management regulations adjacent to designated public waters, which are designated on the Minnesota Public Water Inventory (PWI). In Chaska, such public waters are:

Lakes

Hazeltine
Bavaria
Chaska
Courthouse
Firemen's

Rivers / Streams

Minnesota River
West Chaska Creek
East Chaska Creek *

* Includes Lake Grace, Jonathan Lake, McKnight Lake, and Big Woods Lake

Chaska adopted shoreland regulations in 1986 as an amendment to its zoning ordinance. Such regulations apply to the shoreland within 1,000 feet from a lake or pond, and 300 feet from a river or stream. They regulate the use of land within the delineated shoreland, the size and shape of lots, the size and location of structures, the installation and maintenance of private water supply and sewage treatment systems, the grading and filling of land, and the cutting of

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vegetation. The regulations are treated as an overlay district relative to underlying zoning districts.

In 1989, the DNR adopted an updated set of standards for shoreland management. Once again, localities were required to adopt the revised regulations, but on a priority basis. For example, the first priority communities in the metro area were those located on Minnetonka and White Bear Lakes. Chaska needs to amend its 1986 ordinance to include 1989 updated standards.

The City of Chaska has worked closely with DNR officials in the enactment and enforcement of shoreland regulations. The designs of specific developments, such as Hazeltine Shores Apartments and Chevalle, have been significantly altered to meet shoreland standards. As a result, a higher quality end result has been achieved.

Shoreland Policies

- 1) The City of Chaska recognizes that it is in the best interest of the public health, safety, and welfare to provide for the wise use, subdivision, and development of shorelands of public waters, which are designated on the Minnesota Public Water Inventory (PWI).
- 2) The City of Chaska will continue to work closely with DNR officials to update and enforce shoreland management regulations as required.

V. WOODLAND / STEEP SLOPES

Chaska contains a significant amount of land with steep slopes. This is usually found along the two Chaska Creeks drainage systems, along the Minnesota River bluff line, and around lakes. Since this land was not suitable for cropland, much of the steep slopes have extensive tree cover. Vegetation deters soil erosion on the steep slopes and is valuable for wildlife habitat and visual amenity.

There are a few areas within Chaska where native stands of predominantly hardwood trees are found on level to rolling terrain. These upland wooded areas were never cleared for cropland use. Woodland concentrations are also found in proximity to some low, wetland areas. These are usually not hardwood stands but are still valuable for environmental purposes.

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Figure 3.3 on the following page shows in a generalized manner the steep slopes and woodland concentrations. A correlation between steep slopes and woodland is evident.

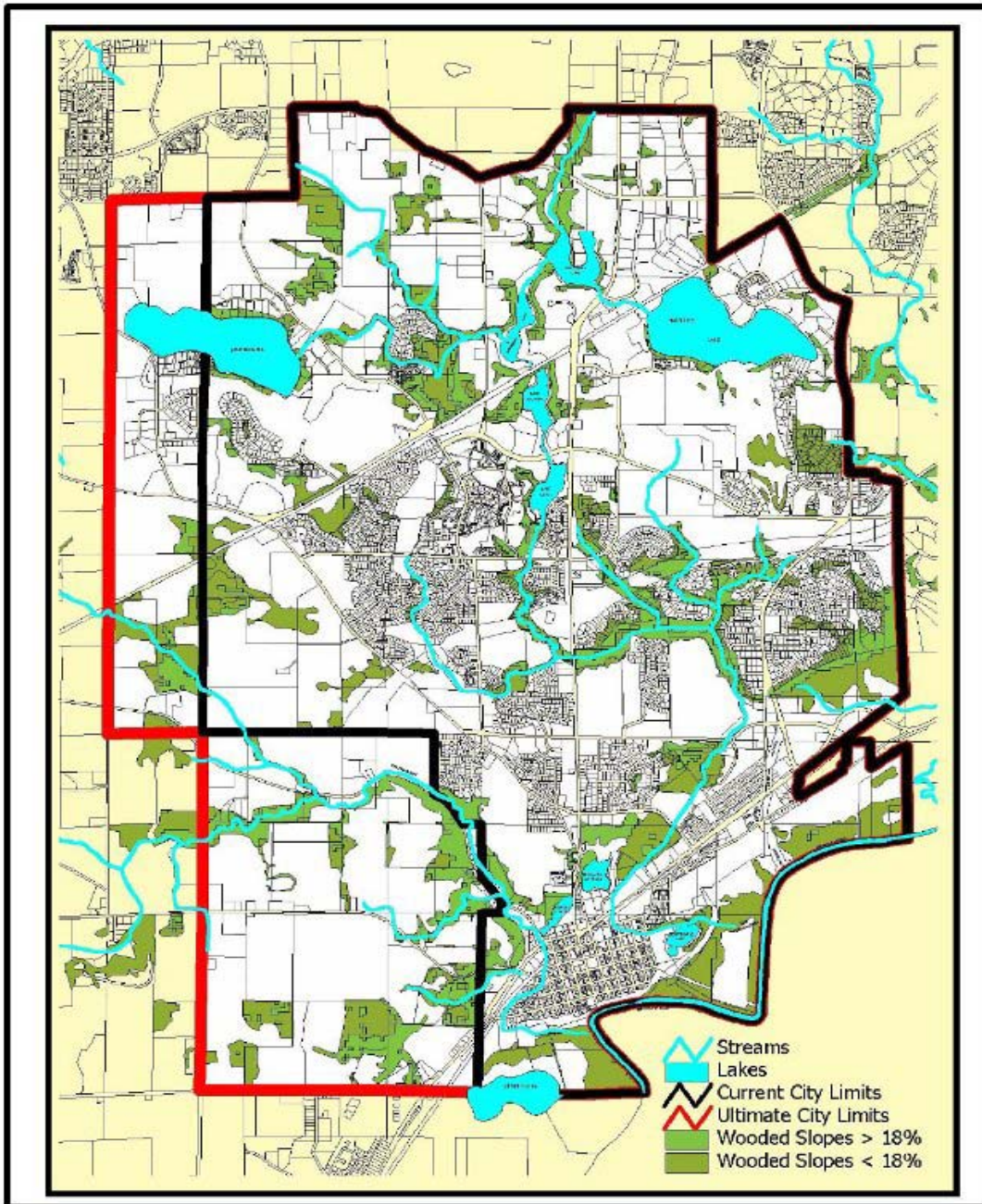
Woodland / Steep Slope Policies

- 1) Wooded land with an 18 percent slope or greater shall be preserved in its natural state for environmental value, particularly to deter soil erosion on the steep slopes and protect natural wildlife habitat areas. In addition, buildings and parking shall be set back at least 50 feet from the edge of the 18 percent slope and a 30-foot “no-grade/mow” zone provided for adjacent to the edge of the 18 percent slope for purposes of erosion control.
- 2) Where possible, woodland areas of less than 18 percent slope shall be preserved for their ecological, historic, and aesthetic value. Where urbanization does occur within such upland wooded areas, it should be sensitively designed by use of large lots, cluster development, etc. so that the overall woodland effect is preserved.
- 3) Detailed site plans shall be required for areas within or proximate to woodlands to ensure that potential negative impacts are minimized.

VI. IMPLEMENTATION

The City of Chaska is committed to the protection and preservation of its significant natural resources. The City of Chaska has established a very solid record of environmental protection during the past four decades. Since Chaska’s natural environment is one of its strongest attributes, the preservation of such environment will continue to be of major importance to the City’s well-being. Environmental regulations will continue to be added and updated as necessary to assure adequate environmental protection.

Steep Slopes & Woodlands



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2030 Comprehensive Plan
Community Development Department

Data Source:
City of Chaska
Metropolitan Council

May 2009

Figure 3.3

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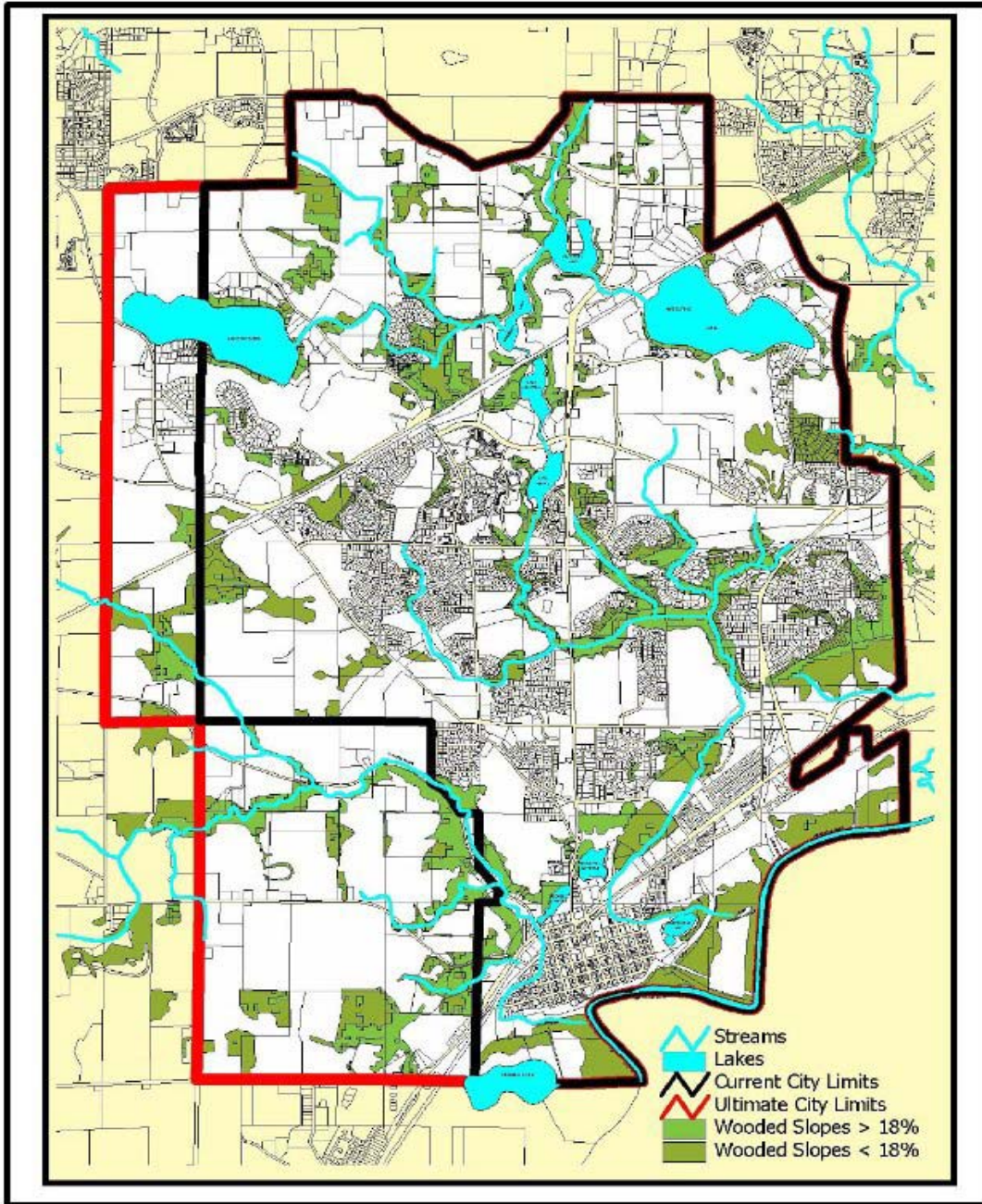
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- Figure 3.3 -

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Environmental Features



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Community Development Department

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Figure 3.4

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