

**CITY OF AFTON
2008 COMPREHENSIVE PLAN**

July 19, 2011
[Revised May 19, 2015](#)

This Page Intentionally Left Blank

Table of Contents

Preamble	7
Philosophy.....	7
Introduction.....	8
Vision Statement	8
Purpose	9
Historical Background.....	10
Background Information.....	11
Migration & Turnover of Population.....	11
Housing Values	12
Conclusion	13
Environmental Resources Plan	15
Intent.....	15
Soils	15
Topography.....	16
Vegetation	16
Riparian Systems	17
Groundwater.....	17
Aggregate Resources.....	18
Energy.....	18
Environmental Resources Goals and Policies	19
Housing and Land Use Plan	21
Agricultural.....	21
<u>Agricultural Zoning District and Agricultural preserves Overlay District</u>	<u>22</u>
Residential	22
Old Village	23
Industrial.....	25
Marine Services.....	25
State Park.....	26
Housing and Land Use Goals, Policies and Strategies	26
Transportation Plan.....	29
Traffic Analysis Zones	29
Roads and Highways.....	31
Safety.....	33
Access Management	33
Aviation	33
Transit.....	33

Non-Motorized Transportation.....	33
Transportation Goals, Policies and Strategies	34
Groundwater and Surface Water Plan	35
Groundwater and Surface Water Goals and Strategies	35
 Wastewater Plan.....	35
 Wastewater Goals & Policies.....	37
<u>Wastewater and Sanitary Sewer Plan.....</u>	<u>39</u>
<u>Existing System</u>	<u>39</u>
<u>Planned System Improvements and Projected Wastewater Flows.....</u>	<u>41</u>
<u>Collection System Improvements.....</u>	<u>45</u>
<u>Treatment System Improvements</u>	<u>45</u>
<u>Inflow and Infiltration.....</u>	<u>46</u>
<u>Staging.....</u>	<u>46</u>
<u>Wastewater Goals and Policies</u>	<u>47</u>
Parks and Open Spaces Plan.....	39
Existing Parks & Open Space	39
Parks and Open Space Goals, Policies and Strategies	41
Solid Waste Plan	43
Solid Waste Goals and Policy.....	43
City Governance Plan	45
City Governance Goals, Policies and Strategies	45
System Statement Compatibility	47
Implementation Plan.....	49
Capital Improvements Program.....	51

List of Appendices..... 53

Appendix A Terms and Definitions

Appendix B Demographic Information

Appendix C Watershed District Information

Appendix D Resource References

Appendix E Soils Information

Appendix F Parks and Open Spaces

Appendix G [Stormwater Surface Water KPI Management Plan \(draft\)](#)

Appendix H Community Survey

Appendix I Maps

Appendix J Sewage Treatment System Inspection Services Agreement & Ordinance

Appendix K Afton Flora and Fauna

Appendix L Public Involvement in Comprehensive Plan Process

[Appendix M Facility Plan – Elevate Wastewater Collection and Treatment Alternatives](#)

List of Figures

Figure 1 Afton Population Pyramid, 2000 Census.....11

Figure 2 Transportation Analysis Zones-Afton, Metropolitan Council29

Figure 3 City of Afton Existing Transportation System, Metropolitan Council32

[Figure 4 Compliance Status40](#)

[Figure 5 Historic Village Sewage Treatment Service Area Zoning.....43](#)

[Figure 6 Estimated Sanitary Sewer Flows.....44](#)

List of Tables

Table 1 Housing Values, 2000 Census.....12

Table 2 Residential Housing Units, 2000 Census23

Table 3 Acreages by Zoning District, City of Afton26

Table 4 Traffic Analysis Zones (TAZs), Metropolitan Council.....30

This Page Intentionally Left Blank

PREAMBLE

We, the residents of the City of Afton, Minnesota, in order to:
preserve our rural sanctuary amidst suburban sprawl;
preserve our agricultural heritage and land use;
preserve the character of our Old Village;
protect our groundwater and surface water from contamination;
protect our rolling hills from erosion;
provide for open spaces to be enjoyed by future generations; and
ensure a sound tax base and a sense of community
Do ordain and establish this 2008 Comprehensive Plan.

Philosophy

From the time this community was named with a river in mind and now a City on the Scenic St. Croix River, water has been *the* foremost concern of its residents. That concern has never been greater than today.

Some see urban development as excellent proof of a growing economy; we see urban development as a threat to the water we drink, the crops we grow, and the vistas we gaze upon. This preservation attitude is consistent with the long-term desires of our residents and promotes a healthy respect for the environment. As such, our ordinances do not forbid change; they require that change not harm the environment. As stewards of this land and all that is in it or on it, we can do no less. This City is different from other communities in the Metropolitan Area *and wants to stay that way.*

This City borders on another city that has a diametrically opposed philosophy about land use and urban expansion. This is one of the most significant challenges this City has ever faced. The adage in the real estate industry is that the three most important points in real estate are “location, location, and location.” The three most important points in the City of Afton are “groundwater, surface water, and groundwater recharge.” We drink this water, we fish these streams, we protect the environment for the flora and fauna with which we share the land.

In many respects, we regard agricultural and open space as the “highest and best use” of the land. We regard our position as a community trust to preserve, protect, and defend our lands and lifestyle from irreversible change. That is our right and the actions of other jurisdictions, including the Legislature and the Metropolitan Council, ***should respect that vision of Afton to remain rural by choice.***

Introduction

*Flow gently, sweet Afton, among thy green braes,
Flow gently, I'll sing thee a song in thy praise;
My Mary's asleep by thy murmuring stream,
Flow gently, sweet Afton, disturb not her dream.*

When Robert Burns penned these words, he was describing his own idyllic rural sanctuary in southern Scotland. Half a century later, settlers of the St. Croix Valley would recognize the same spirit in the locale of the township and city they would name Afton.

Afton strives to remain true to the vision of a rural environment, a place neither purely agricultural, nor purely residential, but a blend of both. Located only fifteen miles from downtown St. Paul and bordering rapidly growing suburbs, Afton's unique status as a rural sanctuary is worth preserving.

This plan is divided into Sections as recommended by the Metropolitan Council: Inventory, Goals and Policies, and Implementation. The message of this plan and the story of Afton should be abundantly clear. This city is unique among communities in the Metropolitan Area and wants to stay that way. Afton's leaders are to look to the principles espoused within this plan for governing guidance as they define the ordinances that will preserve this place for current citizens and those to come. For definitions see Appendix A.

Vision Statement

The City of Afton began as a country village. The city's Old Village provides a business center and a rural village atmosphere typically only found far away from the conveniences of a metropolitan area. The Old Village is the cultural heart of the community, providing a town square and access to the river.

Afton is also a city of water. The St. Croix River and the creeks that flow through Afton shape the landscape and are a critical resource for the community. The quality of groundwater and surface water is essential to maintaining Afton's character. Wells and septic systems, rather than city water and sewers, govern every home's relationship to the land. [KKK2]

Afton is also a city of open fields. The farm fields of southwestern Afton represent the city's historical roots in agriculture and continue to be farmed in the face of development pressures on Afton's borders. Methods of preserving Afton's agrarian roots must be found if the city is to remain a rural sanctuary.

Afton is also a city of rolling hills. Water has carved these hills over thousands of years, but it is the impact of development which the city must protect against. Erosion and deforestation in these hills strip Afton of forests and vistas that are also an essential part of life in Afton.

Most importantly, Afton is a city of people. The community within this rural sanctuary gives meaning to the city's character. A sound tax base provides the community with the means to maintain roads, provide police and fire protection, and provide public facilities for the community.

*How lofty, sweet Afton, thy neighbouring hills,
Far mark'd with the courses of clear, winding rills;
There daily I wander as noon rises high,
My flocks and my Mary's sweet cot in my eye.*

The rural sanctuary in southern Scotland that Robert Burns wrote of has long passed into history. But on the shores of the St. Croix River, the citizens of Afton established this plan to maintain the city's deep-seated historical vision. We are stewards of this land and all that is in it or on it, and our government has been granted a trust to preserve and protect our lands.

Purpose

Afton's location within a major metropolitan area belies the rural atmosphere that greets commuters at its borders. Residents and visitors to Afton know they have arrived somewhere special. When Afton residents were asked what they like best about living in Afton, the three most prevalent responses all related to Afton's natural, rural character; each of them is crucial to making Afton a unique community:

1. Rural location and low population density;
2. Open space and dispersed pattern of development; and
3. Presence of active farms and agriculture.

Afton residents value rural location, low development density, open space, working farms, abundant wildlife, and historic places and structures such as the "Old Village." Afton residents enjoy Afton's proximity to the St. Croix River, state and regional parks, the convenient location of the City to commercial centers, reasonable taxes, good schools, and our community identity (Community Survey: General Priorities – Appendix H).

The purpose of the Afton Comprehensive Plan is to perpetuate this character. It is to identify and capture those things that make Afton a unique and special place and protect them for current and future residents.

Citizens of Afton obtain their drinking water from the ground. It is essential, therefore, that thoughtful development planning be followed in order to protect this vital resource. Because groundwater and surface water are connected, it is just as essential to protect our streams and lakes.

The primary purpose of this plan is to:

1. Provide for the preservation of our water resources through careful planning;
2. Promote the health, safety and welfare of the City of Afton and its residents;
3. Preserve agriculture and open space;
4. Protect groundwater and natural resources;
5. Maintain the historical character of the Old Village;
6. Ensure a safe and pleasant environment for residential, commercial, agricultural, industrial and public activities; and
7. Ensure a sound tax base, which will provide the resources needed to maintain our quality of life.

Historical Background

The early human inhabitants of the St. Croix Valley were Native Americans. In the early 1800's, Afton was settled by New Englanders who probably felt at home among Afton's tree covered hills and bluffs. The city retains that New England flavor with its natural beauty accented by narrow, winding roads and small, clapboard sided houses. Joseph Haskell, in 1839, planted three acres of corn and potatoes, built a farmhouse, and thus began the first farm in Minnesota. While communities north of Afton were building sawmills, the first flour mill in the state was built in Afton in 1843. A further indication of the importance of agriculture in Afton was the use of a steam-powered threshing machine in 1861.

The village of Afton was platted in 1855. The majority of the city's historical structures are located within the boundaries of the original village. The 1974 Afton Comprehensive Plan established the Village Historic Site District in recognition of the village's historical significance. The following sites are found within the boundaries of the Village Historic Site District: the Afton Theological Academy, the area's first educational academy built in 1867; the Village Hall (housing the Afton Historical Society), built in 1895 as the Congregational Church; the "Little Red House," built in 1859; the Afton House, built in 1867; and the Little Brick Schoolhouse, built in 1857.

The township of Afton, established in 1859 and named after the village, also has important historical structures and sites. Included among these are: the Bolles Mill Site, the first flour mill in Minnesota; the Bolles House, built in 1856 and the oldest frame house in the area; and, Haskell's Farm.

In 1971, the village and township incorporated to form the City of Afton. Afton is a large city geographically, approximately 25 square miles, but is sparsely populated. The eastern portion of the city contains the bluffs and tree covered hillsides that attracted the original settlers, while the western portion has rolling hills, and open farmland.

BACKGROUND INFORMATION

Afton has long been a desirable place to live. While being only minutes from St. Paul, Afton is a unique and special place due to the combination of its rural character, its scenic bluffs, and its location on a major wild and scenic river. The City has always approached land use management as a crucial component of its goal of protecting groundwater, the St. Croix River, and lakes and streams from the negative environmental impacts associated with urban development, which has set it apart.

Afton is and will remain a highly sought-after location. As surrounding areas have developed at typical suburban densities, Afton has remained steadfast in its low-density approach to development, in order to protect its environment and maintain its rural character. This contrast in development philosophy is visibly apparent as one enters Afton from the west. As these divergent development trends continue, Afton’s rural character will become even more in demand.

Migration & Turnover of Population

The population of Afton, as in all of the U.S., is aging. The median age in 1990 was 35.8, in 2000 it was 42.2. Between 1990 and 2000, the number of people ages 20 to 34 declined from 432 to 262.

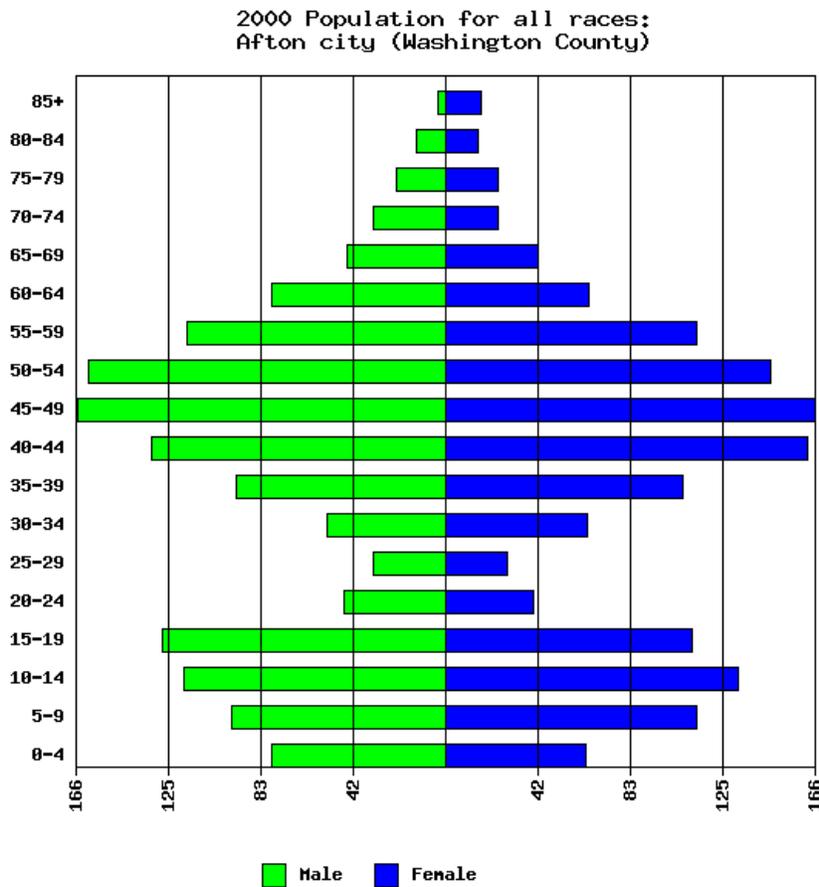


Figure 1 - Afton Population Pyramid, 2000 Census

Aging and housing trends could mean fairly widespread turnover in residential property in the next decade. As current residents decide to downsize their houses or adopt a lower maintenance lifestyle, many new homeowners will arrive from other cities. New residents will come for the same reasons current residents chose Afton: clean water, rural vistas, open spaces, and the St. Croix River. Preserving the rural character, beauty, and natural resources of Afton will be paramount for the future of the City.

This is an opportunity to be proactive in telling Afton’s story in a way that creates and manages the expectations of those who are considering developing or living in Afton, so that those who choose to develop or live in Afton are drawn here by the promise of the unique natural, open, rural character of the City vs. the urban development and services available in countless locations throughout the metro area.

Housing Values

The median housing value in Afton is significantly higher than both the median housing values of homes in Washington County and the State of Minnesota. This reflects the fact that Afton is a desirable place to live and that the demand for housing in the city is high.

Table 1 - Housing Values, 2000 Census

	Afton	Washington County	Minnesota
Median value (1999 dollars)	225,600	156,200	122,400
Median monthly household costs with a mortgage payment	1,473	1,263	1,044
Median monthly rent	1,375	699	566

The desirability of housing in Afton is directly tied to the rural lifestyle and the connection to the natural environment that living in Afton provides. People value the low-density development pattern and willingly pay to secure that.

....the long-term interests of all property owners in the City of Afton are with maintaining the current development pattern, which is the source of value.

Conclusion

Afton has established a development pattern that residents value and is in high demand throughout the region. The challenge for Afton will be to continue to contain infrastructure costs, maintain a low demand for services, and incorporate new residents and their ideas in a way that focuses on the interests of all Afton residents and will maintain the current development pattern.

Demographic trends will significantly increase pressures to develop Afton. These trends in Afton are important to understand because they have evolved and increased in the years since the last update of the Comprehensive Plan. This Comprehensive Plan acknowledges these pressures and seeks to address them by reinforcing the diversified rural development pattern in the City of Afton through its housing and land use goals, policies, and strategies.

For additional demographic information and sources, see Appendix B.

This Page Intentionally Left Blank

ENVIRONMENTAL RESOURCES PLAN

Intent

Afton's environment is a fragile one. The citizens of Afton have a high regard for their environment and have made major efforts to preserve and protect it. Preservation of Afton's natural features has not been an easy task considering the fragile soils, steep slopes, drainage ways, vegetation, and lakes and streams that make up the city. These delicate features need protection through careful planning.

Afton will only permit development which is designed to preserve and protect the soils, wildlife, slopes, drainage ways, vegetation, lakes, streams and river that make up Afton's natural features. Preserving the health and safety of residents requires protecting Afton's environmentally sensitive areas, which preserves the aesthetic qualities of the landscape and protects the purity of the air and water.

The citizens of Afton have a high regard for their environment. Low density development based on the use of private wells and [individual and cluster](#) septic systems [have](#)s provided Afton with unique and sustainable neighborhoods that are not only self-sufficient, but collectively have a relatively low environmental impact. While the city is only fifteen miles east of downtown St. Paul, there is a world of difference between Afton and the surrounding urban and suburban development. Citizens desire to keep the city open and rural, while still enjoying the benefits of being located close to a major metropolitan area.

Afton's natural features exist in gently rolling uplands cut by deep ravines, drainage ways, and streams that flow into the St. Croix River. This topography, while uniquely defining, presents distinct challenges, particularly with storm water and agricultural runoff. Low density development is interspersed with environmentally sensitive areas including a trout stream, a lake, bluffs, ravines, wetlands, steep slopes, floodplains and a river. The commitment to preservation is strong (Appendix H-2007 Community Survey: Groundwater, Farmland and Rural Character).

Afton plans to accommodate future development without compromising the assets that make the city an environmentally friendly area. In addition to those mentioned above, natural resources in need of preservation include view sheds, soils, wildlife habitat, wildlife corridors, groundwater resources such as springs and aquifers, geologically significant topographic features, vegetation, and drainage areas.

Soils

In the soil survey issued by Washington County Soil Conservation District in April 1980, the soils in Afton have been reviewed and different soil types categorized as to their suitability to accommodate on-site sewage treatment systems and to support a rural atmosphere, farming, groundwater protection, wildlife habitat, and a biological diversity for its citizens, flora, and fauna (see Appendix I). It is an inventory of the soils found in the city and indicates, among other things, the type of soil, the slope

gradient, the suitability of the soils to support certain uses and the degree and kind of limitation of each soil type for certain uses.

The maps that accompany the soil survey are useful as a planning tool since one is able to determine those areas that present problems for development. While the soil map is reasonably accurate, it is still recognized that unmapped pockets of different soil types can exist within a designated soil boundary line. Therefore, the soil map does not eliminate the need for soil sampling and testing on each building site. The soil map indicates the areas of prime agricultural soils and additional farmland of statewide importance.

The different types of soil in Afton are directly attributed to glacial till (Tester, J.R., Minnesota's natural Heritage, University of Minnesota press, 1995; chapter 1) and weathered limestone. Most of the Afton area includes soils overlaying bedrock having slow percolation rates, steep slopes, periodic flooding and seasonal high water tables, although there are some karst areas with rapid infiltration rates. There are also some areas in Afton that have been subject to mining. These geologic features have created deep ravines and drainage ways. Soil types associated with these features are generally unsuitable for development due to their instability, high erosion potential and low absorption rates. Development in these areas needs to be monitored to prevent further soil degradation.

While soils are a major factor in determining the importance of land for agricultural purposes (Appendix I – Map 3), there are many other factors that influence whether land is most suitable for agricultural uses. In Afton, the prime agricultural lands tend to be those areas most easily developed, having few topographic or environmental constraints. Yet, these areas provide some of the broadest expanses of non-fragmented open space in the city and are thus critical preservation areas.

Topography

Afton's steep slopes (Appendix I–Map 5) are a result of erosion by flowing water. It is vital to the community that these drainage ways be protected and maintained. It is essential that every attempt be made to limit the amount of additional storm water and agricultural runoff that flows through these drainage ways, many of them in or near the Old Village. Afton currently protects slopes with a grade over 18 percent and slopes with a grade over 12 percent if the soils on such slopes are deemed fragile (Afton City Ordinances, Section 12-132). Continued care must be taken when allowing development in the upland areas of the City.

Vegetation

The vegetative cover is an essential part of Afton's natural environment (Appendix I–Map 4). In an area where there is such dramatic topography, damage to the vegetative cover can result in such things as increased erosion, storm water runoff, and danger of flooding and siltation; lessening of water quality; loss of landscape diversity; decreased land values; detriments to surrounding wildlife and ecosystem; and degradation of soil and air quality. The tree cover is predominant where there are steep slopes, areas not being farmed and along watercourses and drainage ways. The vegetative cover consists mainly of deciduous trees, with several areas of planted conifers.

Riparian Systems

The St. Croix River, a National Wild and Scenic River, is one of the most pristine large river ecosystems in the upper Midwest. In 2009, it was named one of the Ten Most Endangered Rivers in the United States by the organization American Rivers. It is shared and highly valued by two states, Minnesota and Wisconsin. Land use along the river is governed by the Departments of Natural Resources of both states, as well as the U.S. Park Service and local municipalities. In addition to local zoning regulations, all development must conform to the provisions of the Lower St. Croix Bluffland, Shoreland, and Floodplain Management Ordinances.

Parts of the City of Afton are included in three major drainage ways (Appendix I-Map 6): the Valley Branch Watershed District, the Middle St. Croix Water Management Organization and the South Washington Watershed District. Valley Creek, South Fork Valley Creek, Trout Brook and other major ravines and drainage ways are tributaries to the St. Croix River. Much of the surface water that flows from Afton into the St. Croix River goes through or near the Old Village. It is vitally important to the safety of the Old Village, and to the health and vitality of the St. Croix River, that these drainage ways be protected and stabilized and the amount of storm water runoff through these drainage ways be kept to a minimum.

According to the 1996 National Water Quality Inventory, storm water runoff is a leading source of water pollution. Storm water runoff can harm surface waters such as rivers, lakes, and streams which in turn cause or contribute to non-compliance with water quality standards. Storm water runoff can change natural hydrologic patterns, accelerate stream flows, destroy aquatic habitats, and elevate pollutant concentrations and loadings. Development substantially increases impervious surfaces thereby increasing runoff from city streets, driveways, parking lots, and sidewalks, on which pollutants from human activities settle.

Nutrients (phosphorus and nitrogen) and sediment enter the St. Croix and its tributaries from many different sources: wastewater treatment plants, urban storm water, residential lawns, crop land, pastures, animal feeding operations, construction sites and natural sources. Common pollutants in runoff include pesticides, fertilizers, oils, metals, pathogens, salt, sediment, litter and other debris.

Groundwater

Afton must keep the groundwater in its natural condition, free from any degradation caused by human activities. All homes in Afton are currently served by private wells and septic systems. Afton is currently outside of the metropolitan urban services area (MUSA) and has no intention of utilizing the Metropolitan Council's sewer and water services even if they become available. However, a large subsurface treatment system and gravity sanitary sewer collection system will be constructed to serve the existing residential and commercial properties for the Historic Village Sewage Treatment Service Area. It is of the utmost importance in order to maintain our rural residential and agricultural character, that we have ample supplies of clean drinking water throughout the city. In areas that have been mined, it is essential to monitor groundwater to prevent unfiltered septic effluent from damaging the aquifer.

Aggregate Resources

Afton contains limited mineral deposits, primarily sand and gravel. Minnesota Geological Survey indicates that much of Afton falls within an area designated as “Afton Valley Fill,” which is described as:

Colluvial material which fills in lower-lying areas within the bedrock uplands in southeastern Washington County. We interpret most of these deposits to be thin and gravel-poor.
(Minnesota Geological Survey Information Circular 46.)

The circular also indicates that, “*In all likelihood, the majority of these deposits will not continue to be available for mining because of competing land-use pressures.*”

Of the areas in Afton that could potentially be utilized for aggregate extraction, most are either within existing residential neighborhoods or encumbered by a permanent conservation easement. (For instance, lands within the Belwin Conservancy are unavailable for aggregate extraction.) The remaining areas are zoned primarily Industrial, which allows for extraction through a permitting process outlined in Chapter 12, Article X, of the Afton City Code.

Although not significant in size, there are several areas in the city that have been mined that are unsuitable for building unless it is established that they can meet all building requirements. Mining removes the topsoil and sub-soils that filter runoff and sewage system effluent. Systems installed in soils in areas previously mined may result in the effluent moving quickly and untreated through the coarse soils to the water table resulting in pollution of water wells. This is of even greater concern if the area is one of groundwater recharge. Areas of groundwater recharge are critical areas that have soil characteristics that are conducive to rapid percolation of water from the surface into the substrate and ultimately into the local water table and connected hydrologic systems (wetlands, lakes, aquifers, and rivers). Pollution of the groundwater supply would have a devastating financial and environmental effect on the community and its residents.

Energy

As a sparsely populated rural community, the City will encourage feasible methods of energy conservation and locally produced renewable forms of energy that are environmentally friendly. The Metropolitan Land Planning Act (Minnesota Statutes 473.859, Subd. 2) requires that local comprehensive plans include an element for the protection and development of access to direct sunlight for solar energy systems. The City of Afton will protect such access by requiring minimum lot sizes, abundant open space, yard setbacks, and maximum height of buildings for urban residents. Land uses should not preclude the possible use of solar energy systems. The City will review and revise, as necessary, the Zoning and Subdivision Ordinances to ensure the protection of solar access. Section 12-1258 of the Afton City Code requires new subdivisions to “be designed to accommodate extensive use of passive and active solar energy systems...” Section 12-132 prohibits the construction of any structure that will block solar access for an existing principle structure or infringe on the solar access of the buildable area of a vacant lot.

Environmental Resources Goals and Policies

The City of Afton establishes the following environmental resource goals:

1. Maintain the city's overall one housing unit per ten acres density to limit development's footprint upon the land.
2. Protect surface water resources from degradation.
3. Reduce nutrient loading by 20% (Total Maximum Daily Load).
 - a. Improve and protect water quality in Kelle's Creek, Valley Creek, Lake Edith and the St. Croix River.
4. Protect supply of groundwater in area aquifers.
 - a. Maintain springs, Lake Edith and Valley Creek at current surface elevation.
 - b. Maintain aquifers at levels supporting existing area wells.
5. Protect groundwater recharge areas from pollutants.
 - a. Prevent untreated wastewater and unfiltered storm water runoff from entering the groundwater.
6. Protect groundwater aquifers from contamination.
 - a. Provide for safe drinking water.
 - b. Prohibit mining and prevent contamination from previously mined areas.
 - c. Institute a well monitoring program.
 - d. Encourage organic farming and gardening practices.
7. Maintain and enhance fish and wildlife habitats so as to retain or expand the current diversity of species.
 - a. Ensure the long term ecological stability of the riparian system.
 - b. Restore the riparian forests that line the banks of Valley Creek.
 - c. Provide for natural corridors throughout the City.
8. Preserve existing forests, woodlands and prairies and control invasive species.
 - a. Control and eradicate noxious species.
 - b. Control and eradicate invasive species to facilitate agricultural operations.
 - c. Prohibit clear cutting.
9. Protect and preserve steep slopes and the land atop them from development.
 - a. Preserve viewsheds.
 - b. Prevent erosion.
10. Protect soils from erosion, contamination and loss.
 - a. Utilize best management practices in all development.
 - b. Provide natural buffers to stabilize soils and contain run-off where possible.
11. Protect and preserve natural features unique to the City of Afton.
 - a. Promote conservation and scenic easements.
12. Reduce the use of fossil fuels for energy production by encouraging alternative options.
13. Protect the night sky from light pollution.
14. Promote wise land stewardship.

The City of Afton establishes the following environmental resources policies:

1. Maintain the city's overall development density of one dwelling unit per ten acres.
2. Use water quality protection practices such as reducing the use of phosphorus fertilizers and support protection efforts by state, county and federal agencies, as well as the Valley Creek Protection Initiative.
3. Work with various agencies to develop a strategy for reasonable and achievable reduction of nutrient and sediment loading from wastewater treatment plants, Subsurface Sewage Treatment Systems (SSTS), storm water run-off, crop land, pastures, animal-based agricultural operations, construction sites and natural sources.
4. Strive for the highest standard possible for Individual ~~or~~, Communal, or Large Subsurface Sewage Treatment System technology and advanced treatment of wastewater where that technology has been tested, proven reliable and approved by regulatory agencies.
5. Work with the Wisconsin Department of Natural Resources (WDNR), the Minnesota Department of Natural Resources(DNR), and the Minnesota Pollution Control Agency (MPCA) with support from the St. Croix River Water Resources Planning Team, an interagency planning team consisting of federal, state and local members, to develop Total Maximum Daily Load requirements which will enhance the water resources in the St. Croix River Basin.
6. Prohibit clear cutting, monitor and control land uses which contribute to erosion, pollution, and well contamination by enforcement of ordinances.
7. Work with the various agencies involved with groundwater monitoring in regard to the east well-field area in the City of Woodbury.
8. Develop and provide funding for a volunteer well-monitoring program.
9. Study and consider ordinances to allow for economically sustainable, locally renewable and environmentally friendly means of energy production.
10. Actively enforce all land use ordinances, including the various special overlay districts.
11. Protect steep slopes, tree cover, wetlands and other fragile lands through conservation easements, scenic easements, and other available means; and require setbacks from the crest of all slopes of 18% or greater, except in the Lower St. Croix Bluffland District where the slope is greater than 12%~~;~~ with limited exceptions outside of the Lower St. Croix Bluffland District to enable access for subdivisions that result in lots of ten acres or greater, subject to the use of mitigation measures to protect affected steep slopes and conservation easements or other means to restrict further development of the resulting lots.
12. Utilize data from the Natural Resources Inventory when considering all land use applications.

HOUSING AND LAND USE PLAN

The City's land use philosophy is an outgrowth of its focus on environmental protection and the resulting natural rural character of the City. The protection of groundwater is both essential to, and the result of, the City's low density development [KKK3] approach based on private wells and septic. [KKK4] The City's managed development philosophy is also based on limiting and managing storm water run-off to protect the quality of the area's main natural and recreational resource, the St. Croix River.

In the Metropolitan Council's Regional Blueprint (December 19, 1996), Afton is designated as "Permanent Rural" and "Permanent Agriculture." The residents of the City of Afton have consistently supported the concept that Afton remain Permanent Rural and Permanent Agriculture.

The residents of the City of Afton value the agricultural economy and rural character that an agricultural environment provides. This Plan intends to preserve agricultural land for permanent agricultural use, and does not accept the belief held by some that agricultural use is merely a temporary use or that agricultural lands are merely a holding area for future residential or other development. Moreover, the community values agricultural land as open space in an increasingly urban environment, a sanctuary for a rural lifestyle that Afton residents have consistently desired to maintain.

Agricultural

After several years of work, and in conformance with the Metropolitan Council's prior Development Framework Plan, in the Comprehensive Plan of 1982, the City of Afton established an Agricultural Zone with a density of 3 dwelling units per quarter-quarter section (40 acres) of land and passed ordinances to enforce that policy. At that time, and continuously to the present, the residents of the City of Afton have valued the agricultural economy and rural character that an agricultural environment provides.

Agriculture plays an important role in preserving the balance of economic conditions in the Twin Cities Metropolitan area, but productive agricultural land is being lost to nonagricultural development. Once agricultural land is developed for nonagricultural residential, commercial or industrial use, it is forever lost to agricultural production.

In April 1980, the State of Minnesota enacted the Metropolitan Agricultural Preserves Act. This act provides a package of benefits designed to give farmers in the seven-county metropolitan area the assurance that they can continue their farm operations on an equal footing with other farmers in the state, without the pressures of urbanization. These benefits include:

1. Agricultural use valuation.
2. A limit on total tax rates so that they cannot exceed 105% of the statewide average in townships for all purposes.
3. Prohibition of special assessments for sewer and water.

4. Protection for normal farm practices -- a local government would be prohibited from enacting ordinances which inhibit normal farm practices unless they bear a direct relationship to the public health and safety.
5. Protection from eminent domain -- before Ag Preserve land can be acquired by eminent domain, it must be shown that there are no reasonable, cost-effective alternatives which would have less of a negative impact on Ag Preserves. The process of review is conducted by the Environmental Quality Board. A suspension of up to one year is possible, but it cannot permanently stop eminent domain (Minn. Stat. 473H.01 – 473H.17).

In order to take advantage of these benefits, a farmer's land must be designated "agricultural" on the city's land use map and zoned at a density of no more than one dwelling unit per quarter-quarter section for residential development. In addition, the farmer must apply for and receive certification from the city stating that the property is eligible for "preserve" status. Once a farmer's land is designated a preserve, the land must remain in agricultural use indefinitely or for eight years after the landowner applies for an expiration of the preserve designation.

Agricultural Zoning District and Agricultural Preserves Overlay District

To address environmental concerns detailed within this plan and to maintain our overall 1/10 density, this plan creates an Agricultural Preserves Overlay District. With the Agricultural Preserves Overlay District, the Agricultural District is envisioned to allow for three development scenarios:

1. Agricultural Preserves Overlay District: 1 dwelling unit per quarter-quarter section (approximately 40 acres).
2. Agricultural Zoning: 3 dwelling units per quarter-quarter section (approximately 40 acres).
3. Agricultural Zoning using a Preservation and Land Conservation Development on a minimum of 80 acres: 4 dwelling units per quarter-quarter section. Land developed under this option would be subject to conservation easements, and subdividers would be required to set aside an extensive part of their property for continued farming or conservation. The City intends to provide more intensive land use planning throughout this zone so as to coordinate and link the preservation areas for maximum benefit and minimal impact to the character of the community.

Note that, pursuant to the Agricultural Preserves Act, lands in the Agricultural Preserves Program would only be allowed a density of 1 unit per 40 acres on a specific, designated parcel (Agricultural Preserves Overlay District).

Residential

According to the 2000 census, there were a total of 1,031 residential housing units in Afton.

Table 2 – Residential Housing Units, 2000 Census

Housing Type	Afton	Afton %	Washington County %	Minnesota %
1-unit, detached	1026	99.50%	73.70%	67.77%
1-unit attached	3	0.30%	11.80%	5.20%
2 units	2	0.20%	1.10%	3.01%
3 or more units	0	0.00%	13.40%	24.02%

The majority of the housing stock (99.5%) that existed in Afton in 2000 was single-unit detached, which is a higher proportion than either Washington County (73.7%) or the State of Minnesota as a whole (67.77%).

The predominance of older housing is a unique feature of Afton. Nearly a quarter of Afton’s current housing was built in the 1960’s and 15% of the housing stock was built prior to World War II. Homes in Afton hold their value and have appreciated much more quickly than homes across the county and state.

The high land values in Afton have been an obstacle for those looking to locate affordable housing in the City. This is not likely to change in the near future. The City of Afton is willing to work with Washington County and the Washington County HRA to address low- and moderate-income housing needs and to identify resources to maintain and advance housing affordability in the community, where possible and in a manner consistent with the development pattern of the community.

The Rural Residential Zoning District provides for residential development with private wells and on-site sewage treatment systems, with the exception of the rural residential properties within the Historic Village Sewage Treatment Service Area as shown in Figure 5.^[KKK5], ~~with e~~Each Rural Residential lot ~~requiring~~ requires a minimum of five acres, including 2.5 acres of contiguous buildable area. With the steep topography of a majority of the land in the rural residential zone, the average density attainable in this zone is expected to be about one unit per ten acres.

Old Village

The village of Afton is within the Village Historical Site zoning district, hereinafter referred to as the “Old Village,” located in sections 22 and 23 of Afton along the St. Croix River. The eastern boundary of the Old Village is established by the St. Croix River. It is bounded on the southern and western sides by steep slopes and river bluffs. The northern boundary is the intersection of St. Croix Trail South and Stagecoach Trail South. The Village Historic Site zoning district has two sub-districts, the Village Historic Site-Residential District and the Village Historic Site-Commercial District.

The only commercial area of the city is located within the Old Village (VHS Zone) which has been certified as a Historic District. This area has been the traditional commercial focus for the city and for area visitors. The existing village atmosphere needs to be preserved while allowing a balanced and complementary mix of residential, recreational, locally attractive commercial and tourist uses.

Infrastructure improvements should be designed to eliminate environmental hazards and to sustain the long term viability of the commercial area.

Commercial uses in that portion of the Old Village zoned commercial are within the Lower St. Croix Bluffland and Shoreland Management District and thus allowed by Conditional Use Permit only.

The quaint character and charm of this unique, rural village stands in stark contrast to the commercial development happening in neighboring communities. The gas lamps, with their soft, warm light, reinforce the pedestrian-friendly atmosphere. The mix of small businesses and residential properties provides a unique destination experience.

The Old Village has a special place in the history of Afton. The Old Village was platted in 1855 by R. Haskell, Joseph Haskell, H.L. Thomas, and C.S. Getchell. The plat is typical of land divisions of that time: 50 x 150-foot lots and 80-foot wide street rights-of-way designed in a grid pattern overlaying the natural topography and other physical limitations of the site.

Afton's Old Village offers unique opportunities to business owners and professionals. The Old Village has attracted a number of successful small businesses as well as professionals drawn both to the lifestyle and the natural environment. This mix of businesses fits with the residential development of the Village and, together, they reinforce the context that makes the Old Village such an important feature of the City of Afton. Because of the location and the natural constraints on development, most successful businesses in the Old Village have a focused market. The Old Village is not the place for a big box store but rather an ideal location for specialty shops, services, and as a destination for tourists.

The Old Village was established on river flats subject to flooding from the St. Croix River. A significant portion of the Old Village lies within the 100-year floodplain and, over the years, there has been periodic flooding. The City of Afton has made improvements to the levee that protects the Old Village; continued maintenance of the levee will be necessary to protect against future flooding and encourage reinvestment in existing properties. The physical features noted above, bluffs to the west and south, the St. Croix River to the east, naturally constrain expansion of the Old Village beyond its present limits.

St. Croix Trail is the main thoroughfare running through the Old Village. It is maintained by Washington County at county standards. The other improved streets in the Old Village are typical of a rural village. The driving surfaces are relatively narrow, causing slower traffic speeds, a safe pedestrian environment and the aesthetic of the Old

Levee Certification
There have been various attempts to obtain certification of the levee that protects the Old Village from flooding. While certification remains a long-term objective, the reality for the foreseeable future is that the City of Afton and the property owners in the Old Village need to consider strategies for dealing with periodic flooding.

Village. Challenging soil conditions have combined with storm water management issues to prematurely deteriorate streets, damaging property and negatively impacting the aesthetics of the area. A Village-wide approach to storm water management and street maintenance is needed to protect public and private investments in the Old Village.

Old Village residences and businesses currently utilize private wells and on-site sewage treatment systems. Small lot sizes leave limited room on each property for sewage treatment. The overall density creates concerns over the total amount of sewage effluent being discharged into the ground in a limited area. This concern is heightened by the existing, high groundwater table, which leaves limited vertical space for soil treatment before effluent reaches the groundwater. Adding these concerns to the intermittent flooding and geography, the Old Village has a small margin for error when it comes to properly treating sewage and therefore must carefully control remodeling and new construction. The City of Afton has taken steps to require periodic inspections of wastewater treatment systems within the Old Village. To mitigate these concerns, the City of Afton is constructing a large subsurface treatment system and a sanitary sewer collection system to serve the Historic Village Sewage Treatment Service Area. The system will be constructed between 2015 and 2017 and all homes within the service area will be required^[KKK6]to hookup to the system by 2023.

Many of the structures in the Old Village are of historical interest, which is a tremendous asset for the area. Unfortunately, some of these buildings are vacant or in disrepair. Where the historical value is not realized and the properties become blighted, it negatively impacts the entire community. A map showing structures and sites of historical value in the City of Afton is included in this plan (Appendix I-Map 8).

Industrial

Approximately 239 acres of the City are zoned for light industrial use. The light industrial area is bounded by I-94 to the north, State Highway 95 to the west, and includes one 70 acre parcel directly abutting the south side of the Interstate Frontage Road and the east side of State Highway 95, as well as all property north of the Interstate Frontage Road between State Highway 95 to the city limits to the east. Light industry and storage related activities will continue to be allowed in the light industrial area under current zoning ordinances. Afton intends to maintain this area as a relatively low intensity transitional use between the interstate highway and the nearby residential zone. The light industrial area provides a location within the city for those uses that would be incompatible with the residential and agricultural districts.

Marine Services

The City has created a separate marine services zoning district to complement the river accesses and marinas and to permit storage and repair of boats and boat trailers by Conditional Use Permit. This District is generally confined to the area just north of the Old Village that was designated General Business and Light Industry in the Township of Afton before the Lower St. Croix River Bluffland and Shoreland Management Ordinance was adopted, and also includes a boat storage facility located on Manning Avenue just north of 8th Street.

State Park

Afton State Park is owned by the State of Minnesota, and is operated as part of the State Park System. The Park provides substantial open space and natural features, as well as recreational opportunities for Afton residents and the general public. It is anticipated that the land will continue to be used in this way far into the future. The State Park consists of 793 acres.

Table 3 - Acreages by Zoning District, City of Afton

Zoning District	Acres
Agricultural	7180
Rural Residential	7702
Industrial	289
VHS	176
Marine Service:	25

Housing and Land Use Goals, Policies and Strategies

The City of Afton establishes the following housing and land use goals:

1. Maintain the city's overall low density.
2. Preserve the rural character of Afton.
3. Encourage agricultural uses.
4. Maintain natural open spaces.
5. Promote wise land stewardship.
6. Maintain a low demand for public expenditures.
7. Avoid the need for extension of the metropolitan wastewater system into the City of Afton ~~by [KKK7] constructing a large subsurface treatment system to serve the Historic Village Sewage Treatment Service Area.~~
8. Resist development pressures and land speculation, which tend to create urban sprawl.
9. Ensure that development within the Old Village is sensitive to the natural environment that surrounds it.
10. Preserve the rural village character of the Old Village and promote its use as an entry point for recreational activities in the area.
11. Maintain a mix of single-family residential structures and commercial structures containing niche businesses in the Old Village.
12. Provide for adequate parking in the Old Village.
13. Encourage pedestrian-friendly sidewalks and lighting in the Old Village.
14. Promote relatively narrow driving surfaces and slower traffic speeds in the Old Village.
15. Ensure that untreated wastewater and storm water do not flow into the St. Croix River.
16. Reduce flood damage potential.

The City of Afton establishes the following housing and land use policies:

1. The overall development density of the City shall not exceed one unit per ten acres.
2. The City shall not approve any requests to permit property then within the municipal boundaries of Afton to be annexed to any other municipality.
3. The City shall maintain the current densities for the following land use classifications:
 - a. Agricultural - 3 dwelling units per quarter-quarter section.
 - b. Agricultural Preserves - 0 or 1 dwelling unit per quarter-quarter section.
 - c. Agricultural with a Preservation and Land Conservation Development and a minimum of 80 acres - 4 dwelling units per quarter-quarter section.
 - d. Rural Residential - 1 dwelling unit per 5 acres, with a minimum of 2.5 contiguous buildable acres.
 - e. Old Village – 1 unit per 22,500 square feet (1 unit is considered one structure and may include one commercial unit, one residential unit or a combination commercial unit on the main floor with residential unit above).
4. The City shall maintain the current minimum lot sizes for newly created lots in each of the following land use classifications:
 - a. Agricultural – 5 acres with a minimum of 2.5 contiguous buildable acres.
 - b. Rural Residential – 5 acres with a minimum of 2.5 contiguous buildable acres.
 - c. Old Village – 22,500 square feet.
5. Provide for a mixture of land uses which maintains a rural environment and lifestyle and prevents the ~~installation-extension~~ of ~~the m~~Metropolitan Council's sewer systems, municipal water and sewer systems [KKK8] (except for the Historic Village Sewer Treatment Service Area project, as shown in Figure 5, and other urban services in the Agricultural and Rural Residential Zoning Districts.
6. Prohibit land uses which are inconsistent with the rural character of the Rural Residential Zoning District and which might place excessive demand on city services.
7. Prohibit rezoning of a parcel from Agricultural to Rural Residential unless, in addition to meeting other criteria, the parcel is more than 50% contiguous to a rural residential zoning district and such a rezoning would not result in development which is inconsistent with the generally rural character of the surrounding area.
8. Discourage residential development on lands suitable for agricultural use and adhere to planning practices that will allow farms to operate without external pressures.
9. Require a minimum of 300 feet of frontage on a public street for all newly created residential lots outside of the Old Village or within the Agricultural and Rural Residential Zoning Districts.
10. Prohibit long and narrow lots and irregularly shaped lots except when deemed advisable in the Rural Residential Zoning District.
11. Restrict industrial uses to those which do not pose a threat to air or groundwater.
12. Prohibit hazardous waste facilities within the city limits of Afton.
13. Restrict industrial development to those uses that do not generate large amounts of traffic, sewage, and can operate efficiently on an onsite standard drainfield approved by City ordinances.

14. Restrict industrial uses to those which would not create the need for metropolitan sewer, municipal water or sewer, or additional urban services.
15. Commercial uses will only be in the VHS Zoning District. Retail, restaurants and other similar commercial uses are allowed as principle uses only in the VHS Zoning District. Multi-unit dwellings within the Old Village are prohibited as they are not in keeping with the context of the community.
16. Improve streets, lighting and sidewalks in the Old Village.
17. Encourage economic revitalization of the commercial portions of the Old Village.
18. Continue to allow mixed use structures in the Old Village as they are consistent with the current character of that area.
19. To ensure the preservation of the character of the historic district, current non-conforming uses that are rendered unusable may be restored to their prior use in accordance with state law.

The City of Afton will seek to implement the following land use strategies:

1. Prepare a plan establishing priority conservation areas within the Agricultural Preservation Overlay District. The plan should identify areas that are best-suited for continued agricultural production as well as linkages/wildlife corridors that should be established throughout the district.
2. Partner with the Minnesota Land Trust and other independent, non-profit organizations that can serve as holding entities for conservation easements.
3. Study parking needs in the Old Village.
4. Develop and enforce requirements for construction and maintenance of sidewalks and lighting in the Old Village.
5. Develop a management plan for unimproved right-of-ways in the Old Village.
6. Incorporate design review standards (to be) created by the Design Review/Heritage Preservation Commission for future village construction.
7. Develop a visionary plan for “Main Street” in conjunction with Washington County’s reconstruction of St. Croix Trail.
8. Complete the upgrade of the gas street lights to the new, energy efficient standard that has been used successfully in Town Square Park.
9. Encourage the use of conservation or open space design subdivisions where the subdivision permanently preserves open space or agricultural land uses or creates transition zones with adjoining zones or jurisdictions.

TRANSPORTATION PLAN

In 1855 the City of Afton consisted of a main street through the center of the village going north and south with short side streets extending up the sides of the bluffs. Today, Afton is served by an extensive network of federal, state, county and local roads.

The continued emphasis on a low density, rural development pattern will not result in significantly more roads being added to the City of Afton. The projected household growth is estimated to be 12% over the next 20 years. There is a higher growth forecast for cities and towns adjacent to Afton. This higher adjacent growth forecast may bring more traffic to roads within the City.

Development of the road system over the past few decades has focused on the construction of new roads in cooperation with the developers of the subdivisions. The developer has been responsible for the construction of paved roadways and appropriate drainage to city standards and the city has assumed maintenance and ownership of these roadways one year after completion. Where possible, consideration has been given to creating throughways to better manage traffic flow through the city. Due to the low development density of the Agricultural Zoning District, road development has been deemed unnecessary and is prohibited within this zone.

Traffic Analysis Zones

Metropolitan Council Traffic Analysis Zones (TAZ) for Afton which were used to create the 2030 forecasted traffic volumes are detailed below. The projected growth for 2030 is 150 new homes and an increase in employment by 180.

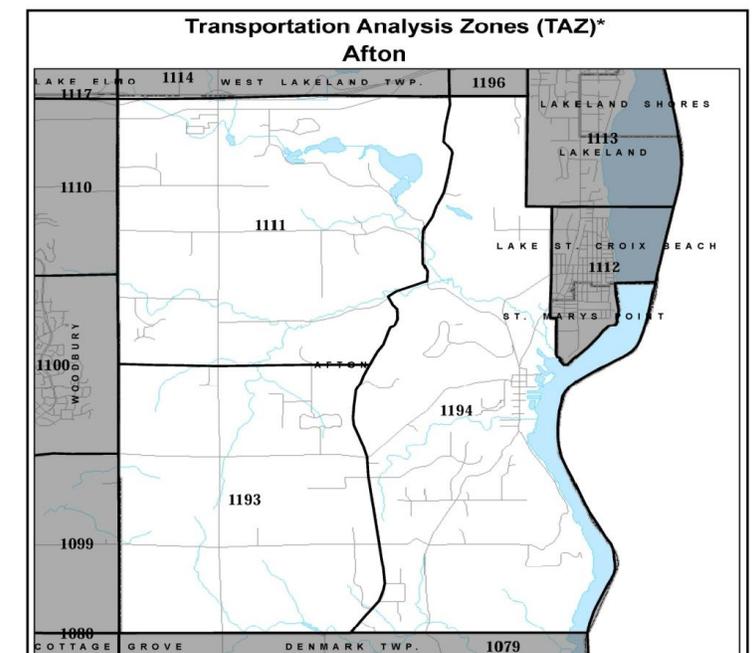


Figure 2 – Transportation Analysis Zones-Afton, Metropolitan Council

Table 4 - Traffic Analysis Zones (TAZs), Metropolitan Council

	2010			
Met Council TAZ	Population	Households	Retail Employment	Non-retail Employment
1111	826	309	5	166
1193	614	234	1	0
1194	1510	557	41	237
TOTALS	2950	1100	450	

	2010 to 2030 Growth			
Met Council TAZ	Population	Households	Retail Employment	Non-retail Employment
1111	135	70	14	46
1193	24	29	3	12
1194	91	51	47	58
TOTALS	250	150	180	

	2030			
Met Council TAZ	Population	Households	Retail Employment	Non-retail Employment
1111	961	379	19	212
1193	638	263	4	12
1194	1601	608	88	295
TOTALS	3200	1250	630	

Roads and Highways

A combination of Federal, State, County, and local roads serve Afton as shown in the Existing Transportation System (Figure 3). Ideally, roads are designed to perform a designated function and are located to best serve the type of travel needed. The four functional classifications assigned by the Metropolitan Council that describe roads in Afton are:

1. Principal arterial;
2. Minor arterial (“A” Minor/”B” Minor);
3. Collector; and
4. Local.

Principal arterial routes are roadways intended to connect metropolitan areas, major industrial centers, etc. that are the highest traffic volume roadways such as interstate highways. Minor arterials connect urban service areas to cities and towns inside and outside the region. The emphasis of minor arterials is on mobility, as opposed to access in the urban area. Collector roadways provide connections between neighborhoods and regional business centers. Local roads provide land access by connecting blocks and land parcels.

Interstate I-94 is a principal arterial along the northern border of the City. “A” minor arterial connectors within the City are Trunk Highway (TH) 95, Washington County Road (CR) 18, and CR 21 (from the village to Denmark Township). “B” minor arterial routes are CR 71 and CR 21 (from the village to the north). Collector routes include 15th Street South (from TH 95 east to Oakgreen Avenue South). All other roads in Afton are considered local.

Washington County has proposed improvements within the City included in their 2010-2014 Capital Improvement Plan. These improvements include planning and design for CR 21 through the village (downtown) Afton. It is anticipated that the construction of CR 21 through the village will occur in 2015.

The City of Afton has a draft Capital Improvement Plan 2011 through 2016 that includes roadway improvements within the Old Village, including Pennington Avenue and other standard roadway maintenance. Other maintenance includes reconstruction of roadway approaches on 50th Street and 15th Street, seal coating, and crack filling.

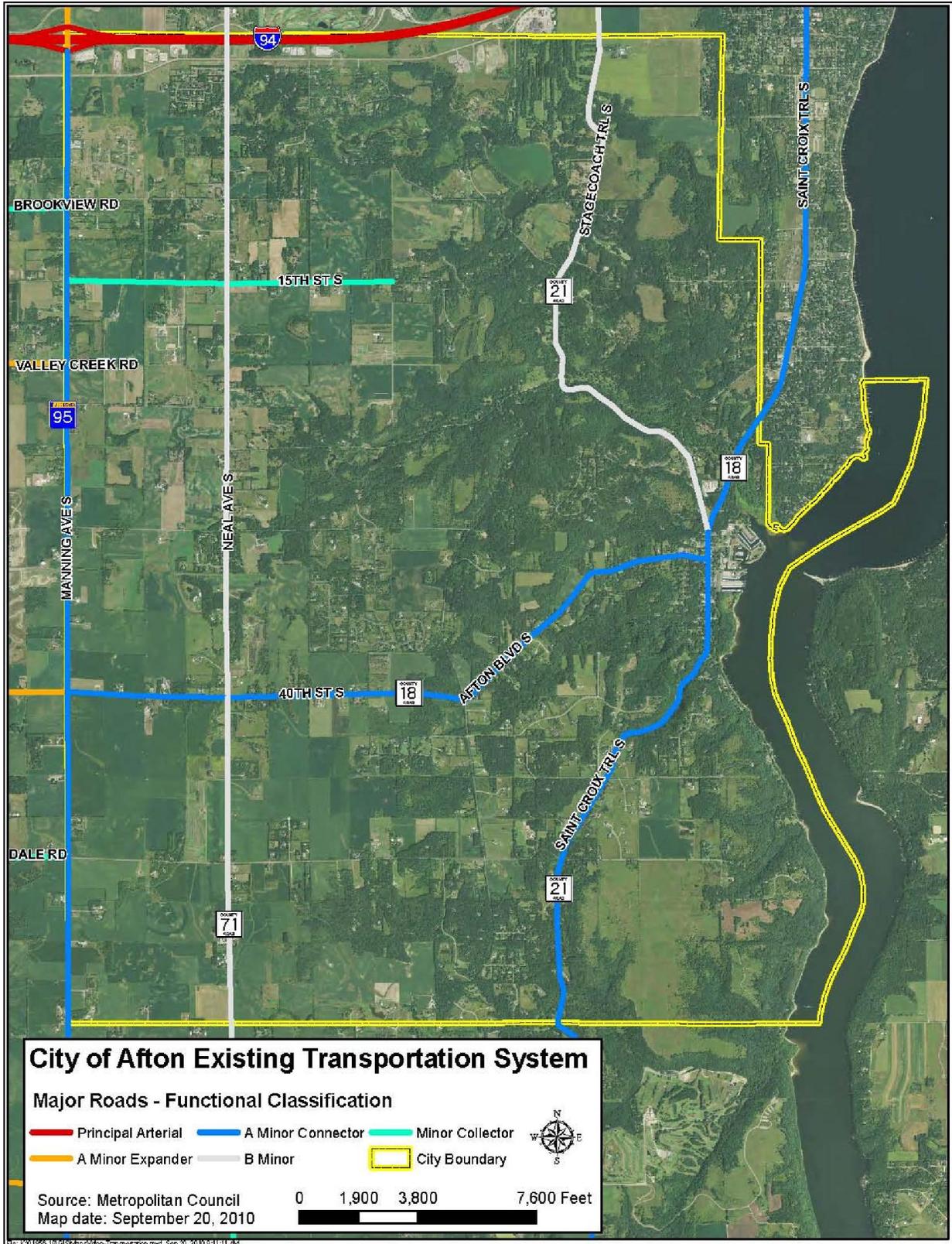


Figure 3 – City of Afton Existing Transportation System, Metropolitan Council

Safety

The City will construct new roadways and reconstruct roadways to meet City standards and increase safety and mobility.

Access Management

The City encourages the alignment of new access points with other existing access points, the provision of adequate spacing to separate and reduce conflicts, and the consideration of sight distance limitations. The City will use Washington County's access management requirements as a guide for design standards on local roadways.

Aviation

Afton does not have an airport or landing strip and will not allow any, public or private, due to the lack of central services, suitable land space, fragile soils, and noise pollution. Heliports are likewise prohibited. The City of Afton promotes the protection of airspace navigations and electronic communication. Current City ordinances prohibit any structures, including antennas and wind turbines, over 150 feet in height. Proposed, new structure construction will require a Conditional Use Permit where the applicant will be required to submit a "Notice of Proposed Construction or Alteration" to the Federal Aviation Administration (CFR – Part 77, Form 7460-1).

Transit

Afton is outside of the Metropolitan Transit Taxing District; there is no regular route transit service existing or planned in the City. There is a Park and Ride lot located at I-94 and St. Croix Trail. Washington County provides limited transit service for the elderly and disabled. The City is located in Market Area IV; service options for transit in Market Area IV include dial-a-ride, volunteer driver programs and ridesharing. The City, in conjunction with its neighboring St. Croix Valley communities and Washington County, may be an advocate for a light rail corridor along I-94 to the St. Croix River. As our population ages, our City may choose to explore the expansion of bus service into our community.

Non-motorized Transportation

While the City of Afton encourages non-motorized transportation, it is not practical as a primary mode of transport outside of the Old Village. However, with the paving of most of Afton's streets, the City has become a destination for the recreational bicyclist who would enjoy the rolling hills, open spaces, and low traffic volumes within much of the community.

Transportation Goals, Policies and Strategies

The City of Afton establishes the following transportation goals:

1. Ensure safe routes for motor vehicles, bicycles, and pedestrians.
2. Ensure that roadways are adequate for use by emergency vehicles.
3. Provide appropriate roadways for area businesses depending on their location in an industrial zone or within the historic Old Village.
4. Provide reliable access to roadways outside of the City of Afton.
5. Provide and maintain roadways and intersections by the most cost effective means possible.
6. Avoid disruption to the natural environment.
7. Promote safe, contemporaneous use of the roads by motorized and non-motorized traffic, as well as oversized and slow moving farm vehicles and implements.
8. Utilize appropriate design and construction techniques to avoid premature degradation of roads adjacent to waterways.
9. Encourage “Park and Ride” lots for commuters in areas adjoining major thoroughfares.
10. Provide for the possible extension of all local streets in new subdivisions to avoid the need for cul-de-sacs.
11. Require right-of-way dedication for existing easement roads and existing streets whenever land development is subject to City Council approval.

The City of Afton establishes the following transportation policies:

1. Prohibit the construction of new streets in the agricultural zoning district except where deemed necessary to allow a property owner to use the property in keeping with the agricultural zoning and to promote land conservation to the maximum extent.
2. Control the upgrading of existing roads and construction of new roads which would serve to encourage non-farm development in the agricultural zone.
3. Require a 150-foot setback along designated collector streets.
4. Work with Washington County to restore the historic character of St. Croix Trail through the Old Village as a slow speed, small village street.
5. Prohibit airports, landing strips and heliports within Afton.
6. Update and implement a capital improvement program.

The City of Afton will seek to implement the following strategies:

1. Post speed limits, weight and parking restrictions on City streets, where appropriate.
2. Post share-the-road signs for bicyclists, equestrians and other uses, where appropriate.
3. Design road improvements within the Old Village to slow traffic.
4. Incorporate traffic-calming and place-making techniques into road improvements within the Old Village to encourage a pedestrian friendly environment.

GROUNDWATER AND SURFACE WATER PLAN

~~A draft of t~~The City's ~~draft~~ Surface Water Management Plan is attached as Appendix G and has been approved by the appropriate Watershed Districts and the Metropolitan Council, but has not yet been adopted by Afton City Council.

Groundwater and Surface Water Goals and Strategies

The City of Afton establishes the following ground and surface water goals:

1. Support the development and implementation of an effective storm water drainage system for the Old Village and surrounding area.
2. Explore opportunities to prevent future flooding.

The City of Afton establishes the following ground and surface water strategies:

1. Develop a plan and seek funding opportunities to deal with potential future flooding in the Old Village.

Additional Goals, Policies and Strategies are contained in Appendix G.

Wastewater Plan

~~Properly treating wastewater is a critical concern of the residents of Afton. There is a strong desire to ensure that wastewater is properly treated so as to limit the impact that development in Afton has on the natural environment. There is an equally strong desire to avoid the land use patterns that come with centralized collection and treatment of wastewater.~~

~~The City of Afton has no plans, or desire, to install a sewer collection system or provide centralized sewage treatment except within the boundaries of the Old Village. Continued use of highly efficient and well-maintained individual sewage treatment systems will avoid public expenditures for central sewer and will prevent development at urban densities.~~

~~There are 1,119 individual, subsurface sewage treatment systems within the city limits. In addition, there is one community system that serves eleven homes.~~

~~Choosing to rely on individual, subsurface sewage treatment systems (SSTS), also commonly called "septic systems," will require the City of Afton to be diligent in protecting residents' health, safety, and welfare. Development restrictions in place limit development in areas with unsuitable soils.~~

~~While the Soils map (Appendix I-Map 2) includes numerous areas in Afton that do not appear to be suitable for on-site septic, the minimum lot sizes required in Afton enable subdivisions to be planned to ensure each lot has suitable sites for on-site systems. The general soils circumstances depicted by the map cannot be relied upon alone in determining whether a building site has suitable locations for~~

the installation of a septic system. An area shown on the map as containing generally suitable soils must be tested for a septic location, and vice versa, any area shown as unacceptable may by testing be proven to have an appropriate site for a septic system.

Compared with other communities in Washington County, Afton has few soils with a slow percolation rate. Slow percolation rates usually indicate a heavy or tight clay soil which does not allow sewage effluent percolation. A significant area of these soils is in the southeast corner of Afton along the St. Croix River. Other small pockets of these soils occur along the many drainage ways within the city.

The steep slopes in Afton are predominantly in the eastern half of the city. These steep slopes follow the major drainage ways. Currently, installation of an on-site sewage treatment system is prohibited on any slope exceeding 12%. Installation of septic systems on slopes over 12% may result in erosion, lateral seepage and down slope flow of effluent. The soils with a seasonal high water table or that are wet or subject to periodic flooding are also located along Afton's drainage ways. These soils are not suitable for septic systems since the effluent will either be dispersed into ground water or will back up into the residence.

Care should be taken when constructing septic systems on sloping sites. In general, as the grade of slope increases so does the likelihood that erosion will occur. When designing and constructing a septic system, it is essential to ensure that the septic system design and installation do not adversely harm the construction site and any adjacent water bodies.

The challenging soils and topography in Afton, combined with the proximity to high-value water resources, creates the need for a high standard for wastewater treatment. It is important that the City continue to monitor advanced methods of wastewater treatment that are accepted by the Minnesota Pollution Control Agency to ensure the methods used in Afton provide the highest level of treatment and monitoring.

A septic system soil suitability map (Appendix I-Map 2) created for the City of Afton indicates where septic systems may best be sited. The soils not shaded on the Soil Map are expected to be suitable for the installation of sewage treatment systems. It is probable that septic systems installed in these soils will perform satisfactorily, treat the effluent properly and present few problems to the landowner, adjacent neighbors and the environment, if the systems are properly designed, installed, and maintained. In addition, Appendix E-Soil Information includes lists of soils (taken from the Washington County Soil Conservation District Soil Survey of April 1980) that are suitable for the installation of on-site sewage treatment systems.

To further ensure the health and safety of Afton's residents, the City performs a thorough review of all SSTS designs and provides expert inspection for all installations. Afton has also implemented a maintenance program for existing systems, including an on-site, biennial mandatory inspection and the gradual upgrading of all substandard.

~~The installation, maintenance and inspection of all SSTS and community septic systems (cluster systems) are regulated by both the City of Afton and Washington County in accordance with Minnesota Rules Chapter 7080. An agreement is in place whereby Washington County provides individual sewage treatment system inspection services within the city (Appendix J-Individual Sewage Treatment System (ISTS) Inspection Services Agreement). As part of this agreement, the City of Afton has adopted Washington County's SSTS ordinance #179 by reference as Afton Ordinance 08-2010. The city has agreed to be consistent with, or more restrictive than, the county.~~

Wastewater Goals and Policies

~~The City of Afton establishes the following wastewater goals:~~

- ~~1. Reduce the volume of wastewater that is discharged to the soils of Afton.~~
- ~~2. Protect ground and surface waters to the greatest extent practicable by improving the quality of wastewater effluent.~~
- ~~3. Protect the groundwater from chemical or hazardous waste introduced from wastewater systems.~~
- ~~4. Explore the possibility of a municipal wastewater collection and treatment system to serve properties within the Old Village, conditioned on users and potential users paying for both the construction and ongoing operating costs.~~

~~The City of Afton establishes the following wastewater policies:~~

- ~~1. Encourage the use of individual, highly efficient, wastewater treatment systems for all homes and businesses within Afton.~~
- ~~2. Restrict industrial uses to those which would not create the need for metropolitan sewer, municipal water or additional urban services.~~
- ~~3. Educate all residents on the proper maintenance of a septic system.~~
- ~~4. Monitor and manage the upgrading of all substandard wastewater treatment systems and require the immediate upgrading or replacement of failing systems.~~

This Page Intentionally Left Blank

WASTEWATER AND SANITARY SEWER PLAN

Properly treating wastewater is a critical concern of the residents of Afton. There is a strong desire to ensure that wastewater is properly treated so as to limit the impact that development in Afton has on the natural environment. There is an equally strong desire to avoid the land use patterns that come with centralized collection and treatment of wastewater. ~~To mitigate existing residential and commercial density concerns within the Historic Village Sewage Treatment Service Area, the city is constructing a large subsurface treatment system.~~ Continued use of highly efficient and well maintained individual sewage treatment systems throughout the rest of the City will avoid public expenditures for central sewer and will prevent development at urban densities.

In 2013, the City completed a Facility Plan to evaluate various wastewater collection and treatment alternatives to replace current individual subsurface treatment systems (ISTS) within the Historical Village Sewage Treatment Service Area (HVSTSA). Included in the study were four alternatives: 1. Leave the system as is; 2. Conduct widespread ISTS replacement; 3. Implement a large subsurface treatment system (LSTS); or 4. Undergo regionalization. The Facility Plan concluded, after consideration of environmental, financial, and technical factors, that the preferred alternative for the city is the implementation of an LSTS system.

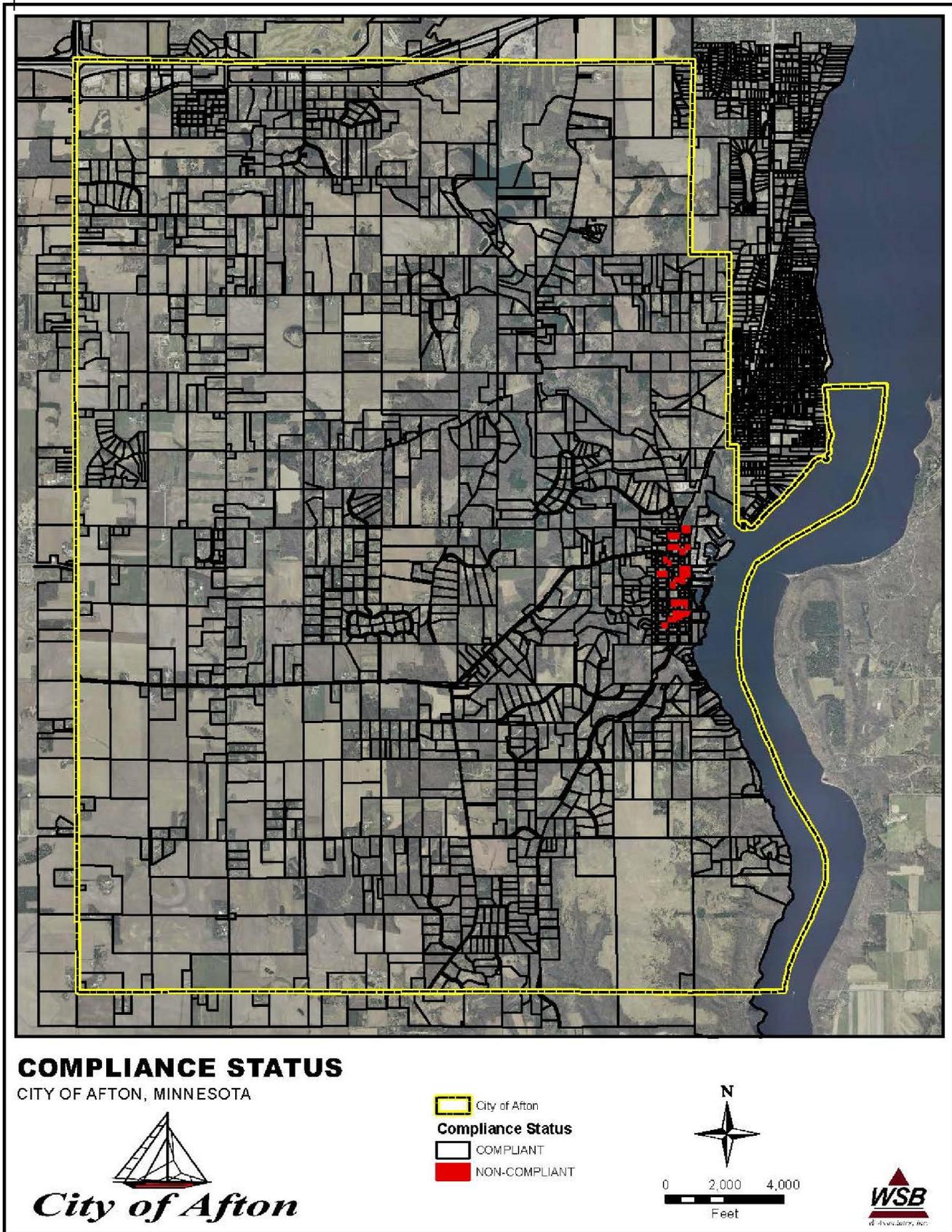
The Facility Plan has been reviewed and approved by the MPCA and the following information summarizes that plan in accordance with comprehensive planning requirements. The entire Facility Plan is included in Appendix M of this Comprehensive Plan. [This highlighted text should be retained as it is pertinent to the reason for the update.](#)

Existing System

As of 2008, there were 1,119 individual, subsurface sewage treatment systems within the city limits^[KKK9]. In addition, there is one community cluster system that serves eleven homes. [A survey of the HVSTSA was completed, and the the location of surveyed, non-compliant systems are shown in Figure 4.](#) It was estimated that 52% of the existing systems were compliant and meeting setback requirements^[KKK10], with another 18% compliant but not meeting setback requirements. ~~(Figure 4^[KKK11]);^[KKK12].~~

The current reliance of ISTSs will require the City of Afton to be diligent in protecting residents' health, safety, and welfare. Development restrictions in place limit development in areas with unsuitable soils. Compared with other communities in Washington County, Afton has few soils with a slow percolation rate. Slow percolation rates usually indicate a heavy or tight clay soil which does not allow sewage effluent percolation. A significant area of these soils is in the southeast corner of Afton along the St. Croix River. Other small pockets of these soils occur along the many drainage ways within the City.

Figure 4. Parcels known to have non-compliant sewage treatment systems in the HVSTSA.



Steep slopes are predominant in Afton along the eastern half of the city. These steep slopes follow the major drainage ways. Currently, installation of an on-site sewage treatment system is prohibited on any slope exceeding 12%. Installation of septic systems on slopes over 12% may result in erosion, lateral seepage, and down-slope flow of effluent. The soils with a seasonal high water table or that are wet or subject to periodic flooding are also located along Afton’s drainage ways. These soils are not suitable for septic systems since the effluent will either be dispersed into groundwater or will back up into the residence.

To further ensure the health and safety of Afton’s residents, the City performs a thorough review of all ISTS designs and provides expert inspection for all installations. Afton has also implemented a maintenance program for existing systems, including an on-site, biennial mandatory inspection and the gradual upgrading of all substandard systems.

The installation, maintenance, and inspection of all ISTSs and LSTSs are regulated by both the City of Afton and Washington County in accordance with Minnesota Rules Chapter 7080. An agreement is in place whereby Washington County provides individual sewage treatment system inspection services within the City (Appendix J – ISTS Inspection Services Agreement). As part of this agreement, the City of Afton has adopted Washington County’s ordinance #179 by reference as Afton Ordinance 08-2010. The City has agreed to be consistent with, or more restrictive than, the county.

The regulation and maintenance programs in place in Afton will continue throughout the construction and hook-up of the new LSTS described in the next section. Existing ISTSs in the Historic Village Sewage Treatment Service Area will continue to provide wastewater treatment until the new system is operational—Because not all individuals will connect to the planned system, and others will be connected in stages, any residents remaining on ISTS systems will still be ~~eligible to participate in maintenance programs and will~~ be required to undergo biennial inspection. Residents outside the Historic Village Sewage Treatment Service Area who cannot connect to the LSTS system will continue to be eligible for maintenance programs. **SEE RECOMMENDED CHANGES.**

Planned System Improvements and Projected Wastewater Flows

Due to the high flooding risk in Afton, as well as the non-compliant ISTSs serving residential dwellings and commercial establishments within the Historic Village Sewage Treatment Service Area, there is a need for sanitary sewer system improvements. The implementation of an LSTS will improve water quality and reduce noncompliant systems. The planned improvements will greatly reduce financial, health, and sanitation impacts to the City, residents, businesses, and general public.

There is a desire from the City of Afton, however, to prevent large-scale treatment systems that would allow for widespread commercial and industrial development. For this reason, the City has decided to implement an LSTS with a capacity allowing a modest growth in residential and commercial flows only. The planned system estimates a population growth of 30 people (17%) in the Old Village over

the next 20 years. In 2030, the system will serve an estimated 77 households and 22 commercial establishments. The following figure details the Historic Village Sewage Treatment Service Area to be served by the LSTS (Figure 5):

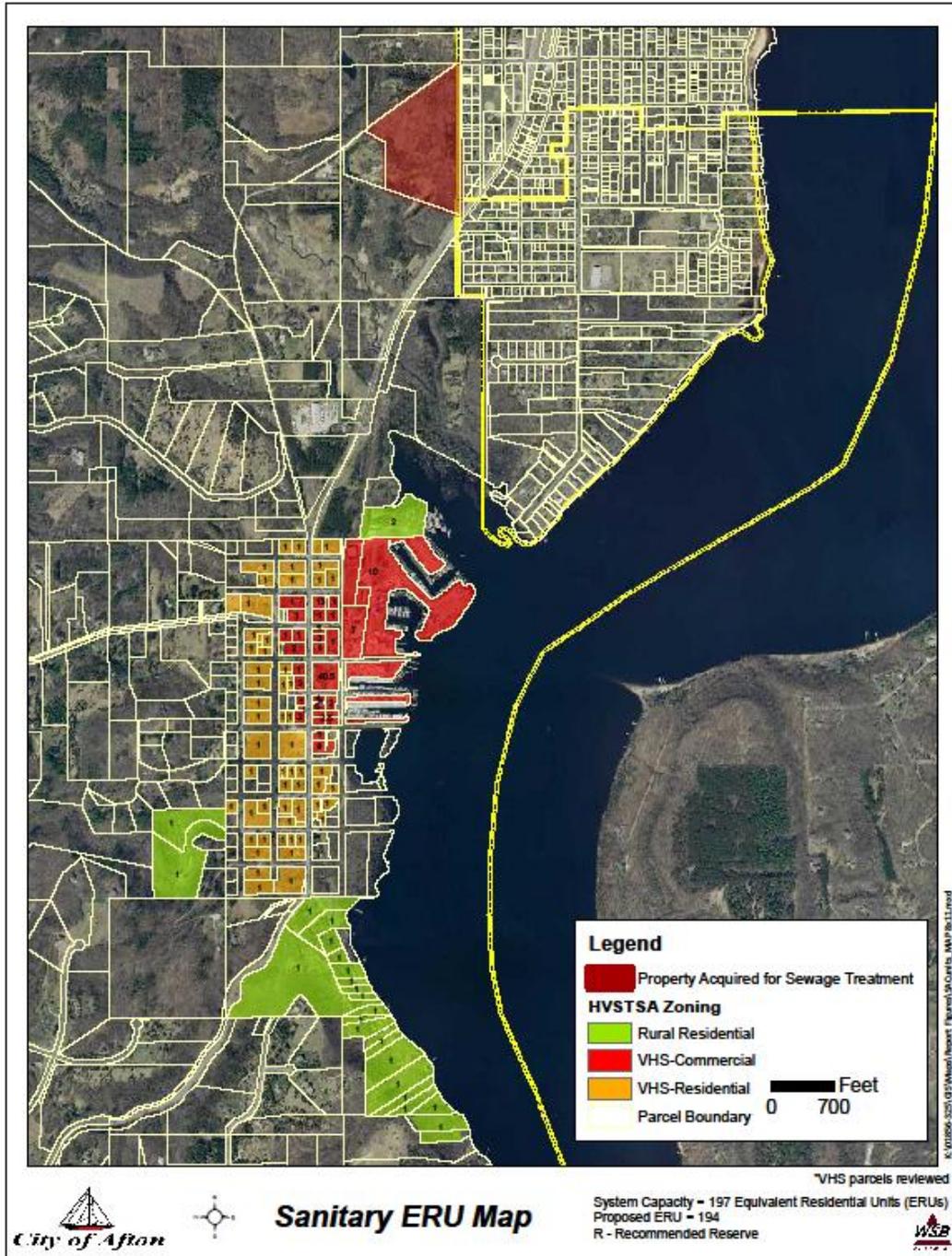


Figure 5. Current Zoning for parcels in the Historic Village Sewage Treatment Service Area-zoning.

The following table presents that sanitary sewer flows that will be generated within the Historic Village Sewage Treatment Service Area based on the land use designations as detailed in the city’s Facility Plan. The 2020 and 2030 flows are in accordance with the proposed system staging that is described in the following sections. As the LSTS will only accommodate modest growth, it is assumed that the design capacities will be reached by the year 2030.

<u>Land-Use</u>	<u>2013 Flow (gpd)</u>	<u>2020 Flow (gpd)</u>	<u>2030 Flow (gpd)</u>
<u>Residential</u>	<u>0</u>	<u>9,272</u>	<u>18,544</u>
<u>Commercial</u>	<u>0</u>	<u>14,175</u>	<u>28,349</u>
<u>Inflow/Infiltration Allowance</u>	<u>0</u>	<u>2,000</u>	<u>4,000</u>
<u>Total Peak Flow</u>	<u>0</u>	<u>25,447</u>	<u>50,893</u>

Table 5. Estimated sanitary sewer flows.

Using the MPCA Design Guidance and 2011 Minnesota Rules, Part 7081.0120, an average daily flow for each system or wastewater generator is estimated using a formula. This formula calculates a flow based on the number of bedrooms in each of the residences, the treatment system type, and the total number of wastewater generating parcels included in each system. To decipher housing bedroom characteristics in the City of Afton, information from the 2010 US Census Bureau was utilized during the completion of the Facility Plan. This information was then rendered to a study area that includes 77 housing units, including 11 vacant parcels. Flow values for the dwellings were calculated using 2011 Minnesota Rules, Part 7080.1860 and 7081.0120. All commercial establishments’ design flows were calculated using MN Rules, Part 7081.0130. Three vacant parcels are included in the design flow. Flow from these parcels was assumed at 500 gpd each. Finally, collection system inflow/infiltration was estimated and included in the total design flow.

Information regarding the number of users and equivalent dwelling units (EDU) is included below. Determining EDUs is essential as over 50% of the wastewater flow is from commercial users including restaurants, bars, office buildings, banks, retail stores, a hotel, church, and a park. EDU calculations are as follows:

$$\begin{aligned} (18,544 \text{ gpd residential flow}) / (77 \text{ dwellings}) &= 245 \text{ gpd/dwelling} = \text{wastewater flow per EDU} \\ (28,349 \text{ gpd commercial flow}) / (245 \text{ gpd/EDU}) &= 116 \text{ commercial EDUs} \\ \text{Total number of EDUs} &= 77 \text{ residential} + 116 \text{ commercial} = 193 \text{ Total EDUs} \end{aligned}$$

The total daily wastewater flow discharging to the LSTS is greater than 10,000 gpd and therefore, the design will follow the MPCA April 2010 Design Guidance for Large Subsurface Wastewater Treatment Systems. All septage activities will follow MPCA Chapter 7080 (maintenance) and Chapter 7083 (maintenance license responsibilities). Septage disposal will occur at a MPCA permitted treatment plant and/or land application following MPCA Septage Management Guidelines and Federal Land Application of Septage Regulations — 40 CFR Part 503. Specific monitoring and management requirements will be outlined in the LSTS MN State permit. [KKK13]

Collection System Improvements

The planned improvements include the construction of a gravity sanitary sewer system, lift stations, and forcemain to convey the residential and commercial wastewater flows generated within the Historic Village Sewage Treatment Service Area to the proposed LSTS. ~~The gravity [KKK14] collection system will be composed of 8-inch diameter pipe sewer that extends along Saint Croix Trail (also referred to as CSAH 21) and 8-inch diameter pipe sewer that extend from the trunk sewer within the city's side streets.~~ Individual sewer services will be connected to the pipe sewer and extend to the homes and businesses to be served.

The trunk lines within Saint Croix Trail will extend to a main lift station located adjacent to the Steam Boat Park ~~proposed~~ parking area east of the intersection of Saint Croix Trail and Upper 34th Street. The main lift station will then convey the wastewater ~~generated via a 4-inch diameter forcemain~~ to the LSTS north of the Historic Village Sewage Treatment Service Area. ~~There will also be two additional lift stations located along River Road that will be rehabilitated to no longer pump the existing 201 cluster septic system. Those two lift station~~ will be reconstructed to convey wastewater to the ~~proposed~~ collection system and ultimately the LSTS. The following figure details the proposed sanitary sewer collections system improvements within the Historic Village Sewage Treatment Service Area (Figure 6).



Figure 6. Planned sewer system in the Historic Village Sewage Treatment Service Area.

Treatment System Improvements

The planned treatment system consists of communal septic tanks, an anoxic denitrification component, recirculation tank, recirculating gravel filter, and a dose tank sized to store and meter flows throughout the day to a seepage cell soil dispersal drainfield. A control building ~~would be included to houses~~ various valves and controls. It ~~would~~ also serves as a location to store miscellaneous items pertinent to system operation and maintenance.

The treatment system will be located north of town at an elevation of 720 to 730 feet above mean sea level. The proposed treatment system ~~is~~ above the 500 year, 100 year, 50 year, and 10 year floodplain elevations of 695 ft, 691.5 ft, 690 ft, and 686.5 ft, respectively, and ~~would be operable during the 25-year flood and protected during a 100-year flood event.~~ [KKK15]

~~As~~[KKK16] ~~described in the Facility Plan, the system would include necessary tertiary equipment and be designed to meet LSTS end-of-pipe effluent constituent limitations of 10 mg/L total nitrogen. Because of sufficient separation distances to the seasonal groundwater, a below-grade seepage cell drainfield would provide final dispersal and assimilation to the local aquifer. The recirculating gravel filter would be designed to accommodate anticipated wastewater flows and loadings (BOD, TSS, and NH₃). The filter would be lined with a synthetic liner and contain select gravel media to serve as the substrate. Wastewater would flow via gravity from the septic tanks and denitrification unit to the recirculation tank. Duplex pumps within the recirculation tank would dose a specified volume of filtrate to one gravel filter cell. The gravel filter would be divided into twelve cells each 10 ft. x 100 ft. RGF zone dosing would be sequenced and would depend on which zones are active. Wastewater that is pumped to the filter flows downward through the gravel media where it undergoes various physical, chemical, and biological treatment processes. There would be no need for blowers to provide oxygen as the filter utilizes ambient oxygen from the atmosphere.~~

~~An anoxic denitrification filter would be included and designed specifically for total nitrogen reduction to less than 10 mg/L total nitrogen. A precast concrete tank would contain a plastic media substrate. The substrate would provide surface area to promote the growth of denitrifying bacteria. A circulation pump is included to mix the nitrified wastewater and carbon source additive. As the wastewater passes the media, affixed bacteria uses nitrates within the wastewater (as oxygen is not available) transforming the nitrates to harmless nitrogen gas. As the bacteria die off, they will slough and fall to the tank bottom. To ensure adequate carbon, a flow proportional pump would be utilized to supply a supplemental carbon additive (acetic acid). Dependent upon flow, temperature, detention time, and nitrate concentration, an established amount of carbon additive would be mixed with the nitrified effluent.~~

~~The soil dispersal system would consist of twenty 21 ft. x 115 ft. pressurized seepage beds totaling 48,300 square feet; another 16,000 square feet would be set aside as reserve area. Duplex pumps within the dose tank would dose a specified volume of pretreated effluent to one seepage bed. Each seepage bed would be pressurized containing a network of distribution piping. Independent~~

~~electronically actuated valves controlled by the main panel would direct the effluent to the appropriate active bed. Dosing would occur on a timed basis throughout the day.~~ [WE COULD JUST REFERENCE THE FACILITY PLAN FOR THIS SECTION.](#)

Inflow and Infiltration

~~Due~~^[KKK17] to Afton's proximity to the St. Croix River, extra precautions will be put in place to ensure the system can withstand flooding. These precautions will also limit inflow and infiltration in the system. Flood-tight castings will be used along the collection system in the floodplain. The collection sanitary sewer will be made from PVC plastic with water-tight gaskets and HDPE including fused joints to keep water from entering the system. In addition, the collection system will be pressure tested after construction, and the manholes will include joints, rings, and castings that are wrapped to exclude water. The combination of these technologies will greatly reduce the potential for inflow and infiltration. Nonetheless, the system plans include an inflow and infiltration allowance of 4,000 gpd as required by the MPCA permit.

Staging

~~Residences~~^[KKK18] and commercial establishments that have existing non-compliant septic systems will be required to connect to the system as soon as it is operational. The remaining users in the Historic Village Sewage Treatment Service Area will be required to hook up to the system within eight years of completion. The system will be fully connected prior to 2030, [as outlined in the updated Sanitary Sewer Code for the City of Afton \(Appendix J\).](#)

Wastewater Goals and Policies

The City of Afton establishes the following wastewater goals:

1. Reduce the volume of wastewater that is discharged to the soils of Afton.
2. Protect ground and surface waters to the greatest extent practicable by improving the quality of wastewater effluent.
3. Protect the groundwater from chemical or hazardous waste introduced from wastewater systems.
4. Construct a wastewater collection and treatment system to serve properties within the Historic Village^[KKK19]Sewage Treatment Service Area.

The City of Afton establishes the following wastewater policies:

1. Encourage the use of individual, highly efficient, wastewater treatment systems for all homes and businesses within Afton.
2. Restrict industrial uses to those which would not create the need for metropolitan sewer or additional urban services.
3. Educate all residents on the proper maintenance of a septic system.

4. Monitor and manage the upgrading of all substandard wastewater treatment systems and require the immediate upgrading or replacement of failing systems.

PARKS AND OPEN SPACES PLAN

Residents value the rural atmosphere of Afton. Five-acre minimum lot sizes outside of the Old Village with houses that do not dominate the views of the countryside, large non-buildable areas of the City, and a large amount of farmland create an open feel to the landscape. *Open spaces, in and of themselves, are valuable to the residents of the City as preserves of nature and sanctuaries for flora and fauna.*

The preservation of open spaces, including land with steep slopes, woodlands, wetlands, scenic or environmentally sensitive areas, and agricultural land provides many benefits, including the protection of natural resources, the provision of wildlife habitat, and the preservation of the natural, rural countryside character of Afton. The preservation of these open spaces is of key importance to the City. The City will seek to accomplish this preservation through a number of means, including:

1. Parkland dedication;
2. Parkland acquisition;
3. Open space dedication incentives in land development regulations; and
4. Encouraging and supporting the long term continuation of agricultural uses.

Existing Parks and Open Space

The City of Afton, and Afton's natural, open, rural character, greatly benefit from the substantial amount of open space that has been preserved by other public and quasi-public organizations. These open space amenities include a State Park, Regional Parks and the Belwin Conservancy. In addition, the St. Croix River is a magnificent open space amenity, providing scenic and tranquil vistas, and a major recreational resource. Another significant element of Afton's open space is its scattered rural development, including large lots and large expanses of agricultural land. Rather than developing new parks, the focus of the City has been to protect and preserve the existing natural resources and open space amenities.

The City does not have a substantial amount of City-owned open space and developed parks. The City of Afton has one park for active recreation, Town Square Park, and another for passive recreation, Steamboat Park, along the St. Croix River. Both parks are located in the Old Village.

Steamboat Park lies mostly in the floodplain and is approximately thirty (30) acres in size. It serves as a sanctuary for many birds and various kinds of wildlife. It is one of the few locations on the lower St. Croix River that is not readily accessible for large boat traffic. Recreation is limited to passive recreation, such as picnicking, walking, swimming, bird and wildlife viewing.

Town Square Park is a more active site. The park provides space for basketball, baseball, picnicking, music concerts, skating and group activities. There is playground equipment, a band shell, and a picnic shelter in the park, as well as primitive restroom facilities. Town Square Park is the focal point of such annual events as the Fourth of July Parade, May Fair, Antique Car Rallies, and Art in the Park.

Over the course of many years, the City has acquired a number of other parcels throughout the city of Afton with the potential to develop into local parks. These public lands were acquired in conjunction with the approval of major subdivisions over the course of several decades and remain undeveloped. In all, there are 53.44 acres of designated park land available for public use.

Community and regional parks (Afton State Park, Lucy Winton Bell Athletic Fields, Lake Elmo Regional Park Reserve, St. Croix Bluffs Regional Park, and Cottage Grove Ravine Regional Park) also provide a variety of different types of recreation to Afton residents.

Two biking/hiking trails pass through the City. One trail follows St. Croix Trail South and extends from the northern edge of the Old Village to Interstate 94. The other, Afton Bluffs Regional Trail, is designated along County Road 18 running east and west, and is not separated from the roadway.

The planned St. Croix Valley Regional Trail will parallel the St. Croix River, and will connect Point Douglas County Park, Carpenter Nature Center, St. Croix Bluffs Regional Park, Afton State Park and the proposed Afton Bluffs Regional Trail. The St. Croix Valley Regional Trail will be aligned parallel and in close proximity to the St. Croix River.

The City seeks to protect a number of significant natural features within its boundaries. These include Trout Brook, Valley Creek and its North Branch, Bissell's Mounds and Kelle's Coulee. Bissell's Mounds in particular are unique to Washington County and are a recognized landmark in the City. Other natural features that are determined to be either unique or geologically sensitive will be preserved as the property around them is developed.

Afton State Park is located south of Afton and a portion of the park (787 acres) is located within the City's boundaries. The park was authorized by legislation in 1969 and was opened to the public in 1982. The terrain of the park is defined by a glacial moraine cut by deep ravines running into the St. Croix River. To Afton's residents, the state park offers many recreational amenities, including: backpack camping, swimming, hiking, fishing, cross country skiing, a prairie landscape, bird watching, and animal sighting. Some of the animals the park offers a home to include hawks, bluebirds, meadowlarks, deer, fox, badgers, turkeys, thirteen-lined ground squirrels, and gray and fox squirrels. Afton State Park is also home to an array of natural vegetation. It contains a combination of oak savannah and woodlands. Park wildflowers include woodland ephemerals in the spring, butterfly weed and puccoons in the summer, and sunflowers and blazing star in the fall.

Belwin Conservancy also holds considerable land within Afton under a conservation easement by the Minnesota Land Trust. This land is designated quasi-public. The Belwin land provides a substantial open space amenity for adjacent land uses, and makes a major contribution to the protection of natural resources, and to the City's rural countryside character.

Parks and Open Space Goals, Policies and Strategies

The City of Afton establishes the following parks and open space goals:

1. Preserve adequate amounts of open space to maintain a rural atmosphere (from Afton's 2000 Park Plan).
2. Obtain and maintain designated open spaces to provide for wildlife habitat and migration.
3. Reconnect Afton's historical linkages to the St. Croix River.
4. Provide expanded access to the City docks to all residents.
5. Provide safe areas to ride bicycles within the City.
6. Provide safe areas to ride horses within the City.
7. Provide pedestrian friendly means of enjoying Afton's scenic views, wildlife, and connections to the St. Croix River.
8. Preserve locally important water resources, natural and scenic features.
9. Periodically identify the recreational needs of Afton citizens and evaluate ways to meet them.
10. Consider using the Afton Bluffs Regional Trail to create an east-west connection from Afton's Old Village to the City of Woodbury.

The City of Afton establishes the following parks and open space policies:

1. Preserve open spaces and natural resources for passive use and create non-motorized trails through direct purchase, subdivision, scenic and/or conservation easements and other means to include the seeking of grants and the use of matching funds when they are available, but not the use of eminent domain.
2. Maintain central community places.
3. Maintain safe environments for children to play and for the community to gather.
4. Maintain designated open spaces to provide for wildlife habitat and migration.
5. Work cooperatively with Washington County, the Belwin Conservancy, the Science Museum of Minnesota, and other quasi-public and private entities to preserve sensitive lands and open space.
6. Develop a park plan to provide for the five small parcels obtained by the City through park dedication.

The City of Afton establishes the following parks and open space strategies:

1. Develop signage and pedestrian-friendly connections to the St. Croix River.
2. Protect Steamboat Park as a nature preserve and passive use area.

This Page Intentionally Left Blank

SOLID WASTE PLAN

The City of Afton does not have and does not want a solid waste disposal site due to the fragile nature of the soils and the underlying geological substrate. The City contracts with trash haulers to collect solid waste.

The City prohibits the burning or dumping of trash and garbage and also has a very active recycling program that encourages citizens to recycle on a regular basis. The City has a contract with a recycling hauler to assist with these efforts.

Solid Waste Goals and Policy

The City of Afton establishes the following solid waste goals:

1. Significantly reduce the amount of material that Afton residents and businesses contribute to landfills or waste incinerators.
2. Explore an organics recycling program. Educate residents about the Environmental Center at 4039 Cottage Grove Drive in Woodbury for disposal of household hazardous waste, electronics and recyclables.
3. Promote “Reduce, Re-use, Recycle” programs.

The City of Afton establishes the following solid waste policy:

1. Provide for trash hauling and recycling service.

This Page Intentionally Left Blank

CITY GOVERNANCE PLAN

The City provides services consistent with those provided in small rural communities, including general street maintenance, parks and recreation facilities, police service, fire protection, building inspection services and general assistance at City Hall. These services have typically been managed from City Hall by a city administrator and small staff.

The City of Afton owns five public buildings located on three parcels of property. The Afton Village Hall, leased to the Afton Historical Society and City Garage are located on Lots 1, 2, and 3 of Block 8 in the Old Village. The Town Hall (leased) and Garage are located in the NW quarter of the SW quarter of Section 10, on Stagecoach Trail South. The City Hall is located on Lots 2, 3, 4, 5, and 6 of Block 11 of the Old Village. The City also owns docks that are leased to a private operator.

Police protection is provided through a contract with the Washington County Sheriff's Department. As the city grows the cost of police protection may increase, and the provision of these services should be a consideration as new developments are proposed. Fire, ambulance, and rescue services are provided by way of a joint powers agreement among the five Lower St. Croix Fire Protection District cities with a fire station located in Lake St. Croix Beach. There are no current plans to add additional public facilities.

City Governance Goals, Policies and Strategies

The City of Afton establishes the following public facilities goals:

1. Maintain a small and efficient government.
2. Properly maintain public facilities.
3. Encourage a “pay-as-you-go” approach to maintaining public facilities and infrastructure.
4. Public subsidy for development, in the form of tax breaks such as Tax Increment Financing, shall be discouraged by the City of Afton.

The City of Afton established the following public facilities policies:

1. The City of Afton will comply with all FAA and Met Council Aeronautic Safety Standards regarding the height of structures and any regulations that pertain to airspace safety and electronic interference over the City of Afton.
2. Comply with all state and federal mandates.
3. City property is to be leased at market value.
4. The City Code shall be properly maintained so that current version is annually provided to all elected and appointed officials.

The City of Afton will seek to implement the following strategies:

1. Institute a budgeting process that annually takes a long-term examination of the City's finances.
2. Prepare a Capital Improvements Plan that outlines the costs and phasing for all maintenance activities required for municipal infrastructure.
3. Consider the creation of a special taxing district [or implement the 429 assessment process](#) to facilitate infrastructure improvements within the Old Village.

SYSTEM STATEMENT COMPATIBILITY

The Metropolitan Council has issued a system statement for the City of Afton, which indicates specific issues that must be addressed by the Comprehensive Plan before the Plan is considered complete by the Metropolitan Council. The City of Afton seeks to comply with all aspects of the system statement and has done so as per the following:

1. **Population, Housing, and Employment Forecasts:** The Metropolitan Council (Met Council) provides population, housing and employment forecasts for the City of Afton until the year 2030. These are required to be part of the plan update and are cited in Appendix B - Demographics Information of the Comprehensive Plan.
2. **Density and Land Use Classification:** The Met Council classifies the geographic area that the city of Afton is located in as “diversified rural” and partially “agricultural.” Diversified rural areas include a mix of large-lot residential and clustered housing with agricultural and other uses. Density in diversified rural areas must be less than 1 housing unit per 10 acres. Agricultural areas are planned and zoned by local communities to maintain agriculture as the primary long-term land use. The density of agricultural areas may not exceed 1 housing unit per 40 acres.

This plan identifies policies, in the Housing and Land Use Action Plan that will maintain an overall development density within the parameters required in the system statement.

3. **Aviation Plan and Facilities:** The system statement requires that the City of Afton must include airspace protection in its comprehensive plan. The protection is for potential hazards to air navigation including electronic interference. Airspace protection should be included in local codes/ordinances to control height of structures, especially when conditional use permits would apply. The comprehensive plan should include policy/text on notification to the FAA as defined under code of federal regulations CFR-Part 77, using the FAA Form 7460-1 “notice of proposed construction or alteration.”

There are no public or private airfield facilities within the City of Afton. Furthermore, public and private airfields and heliports are not allowed within the City of Afton. Language has been added to the Public Facilities Action Plan to reflect Afton’s desire to follow all FAA and Met Council Aeronautics Safety Standards in regards to airspace safety in the City of Afton.

4. **Sewage Treatment:** The system statement requires that the City of Afton incorporate current MPCA regulations as part of a program for managing individual, ~~and cluster,~~ and large sewer systems in the local comprehensive plan and implement the standards in issuing permits. An overview of Afton’s management program must be included in the community’s local comprehensive plan update.

Afton should include in the sewer element of its comprehensive plan the conditions under which private treatment plants would be allowed. The use of private wastewater treatment plants must be consistent and compatible with the long-term regional wastewater system plan.

Subsurface and cluster septic treatment systems are regulated by Afton City Code which adopted Washington County's septic ordinance by reference and by contract with Washington County to perform permitting and inspections (Appendix J).

5. **Watershed Management:** The system statement requires that a local surface water management plan should be prepared once a watershed plan for the area has been approved. The local surface water management plan must be submitted to both the water management organization(s) within whose watershed the community is located and to the Metropolitan Council for its review.

Afton is required to complete a local surface water management plan. The plan will be submitted to the Met Council for its review concurrent with the review by the watershed management organizations.

6. **Trail Connections:** The system statement indicates that a proposed regional trail following the St. Croix River (St. Croix River Regional Trail) and a planned trail (Afton Bluffs Trail) will be located within or traverse across the City of Afton. These trail alignments are acknowledged in the Parks and Recreation Action Plan.

IMPLEMENTATION PLAN

The City has adopted and does enforce the following ordinances, among others. The ordinances and official controls listed in this section will continue to be enforced in order to implement this Plan.

1. The Zoning Ordinance, as amended from time to time and incorporated by reference herein, implements the primary elements of this Plan by establishing the type, location, and intensity of uses throughout the city as prescribed by this Plan.
2. The Shoreland Management Ordinance, as amended from time to time and incorporated by reference herein, protects wetlands, water bodies and water courses throughout the City as prescribed by this Plan.
3. The Floodplain Ordinance, as amended from time to time and incorporated by reference herein, protects man-made development from floodwaters and the floodplain areas that carry and discharge regional floods by limiting development in those floodplains and floodways in the City as prescribed by this Plan.
4. The Sanitary Sewer Disposal Ordinance, as amended from time to time and incorporated by reference herein, governs the installation, inspection, and maintenance of septic systems as prescribed by this Plan. Further, the City issues septic system permits, inspects installation of all septic systems, reviews soil tests for subdivisions, issues building permits after the City has issued any required zoning use permit, and provides consultant planning services. [The City is currently undergoing a Sanitary Sewer code revision to address changes in the Historic Village Sewage Treatment Service Area](#)
5. The Subdivision Ordinance, as amended from time to time and incorporated by reference herein, regulates the division of all property as prescribed by this Plan.
6. The Mining Ordinance, as amended from time to time and incorporated by reference herein, establishes uniform performance standards for sand and gravel extraction and for land reclamation as prescribed by this Plan.
7. The Lower St. Croix River Bluffland and Shoreland Management Ordinance, as amended from time to time and incorporated by reference herein, protects the natural environment and aesthetics of this wild and scenic river as prescribed by this Plan.
8. The International Building Code, as amended from time to time and incorporated by reference herein, protects the safety, health and welfare of residents through regulating standards of construction.

In addition to these ordinances, the city utilizes and depends on the following agencies for reviews of proposed developments and advice on ordinance revisions:

1. Watershed and Water Management Organizations review all proposals within the watershed and recommend permit conditions for building within four different watershed districts within City limits.
2. Minnesota Department of Natural Resources reviews and approves all developments along the St. Croix River, other public water bodies and floodplains.
3. U.S. Army Corps of Engineers reviews and approves alterations of public water bodies.

4. Minnesota Pollution Control Agency reviews pollution problems.
5. Metropolitan Council reviews and approves the comprehensive development plan.
6. Lower St. Croix Valley Volunteer Fire Department recommends ordinances necessary to protect the health and safety of Afton residents, and comments on development proposals.
7. Washington County Soil and Water Conservation District reviews proposed projects and offers recommendations on slope, wetland, and fragile lands protection.
8. Minnesota Department of Transportation and Washington County Highway Department maintain and develop state and county roads.

In 1997, the City amended and recodified its ordinances to eliminate inconsistencies and to assure conformance with the Comprehensive Plan. In addition to enforcing the existing ordinances that will implement this Plan, the city will update and revise pertinent ordinances in order to implement all of the policies contained in this Plan. As a general overview, it is the City's intent to amend the ordinances and policies in conformance with this plan within required timeframes.

While this plan contains much of the language, intent and purpose of the previous version of the City's Comprehensive Plan, it has been formatted quite differently. The plan is now organized into sections of background followed by topic specific goals. It is the intention of the City of Afton to work, over time, on developing policies and strategies for implementing these goals. When adopted, these would require an amendment to the plan, which would need to follow required procedures for making plan amendments.

Additionally, there are statements of policy or regulation contained in the 1998 version of the plan that were lost in the conversion to the new format, yet are significant and require additional ongoing discussion. It is not the intent of this plan update to modify the spirit and intent of the 1998 plan, but to provide a more clear vision and create a document that can be strongly implemented.

CAPITAL IMPROVEMENTS PROGRAM

The City has limited funding for capital improvements and seeks to minimize debt. As such, the City needs to correlate the tax base with the long-term capital needs of the community, including:

1. Re-gravel, reconstruct and sealcoat streets.
2. Repair bridges, streets and culverts as required.
3. Use Park Dedication Funds to upgrade existing facilities and to purchase land and/or easements to add to future park and trail infrastructure.
4. Resolve surface water erosion issues.
5. Manage storm water run-off on Old Village streets and boulevards.
6. ~~Replace~~ Remove the 201 system in the Old Village ~~when needed~~.
- ~~6.7.~~ Construct the Large Subsurface Treatment System and Sanitary Sewer Collection System for the Historic Village Sewage Treatment Service Area
- ~~7.8.~~ Repair sidewalks in the Old Village.
- ~~8.9.~~ Expand the use of gas lights in the Old Village.

A detailed Capital Improvement Program (CIP) outlining cost estimates, income sources, and payment schedules will be attached to this plan at a future date. The CIP will be reviewed and revised annually. Sound financial planning will be utilized so as not to significantly increase the tax burden on individual property owners in fulfilling the capital improvement plan.

This Page Intentionally Left Blank

List of Appendices

Appendix A: Terms and Definitions

Appendix B: Demographic Information

Appendix C: Watershed District Information

Appendix D: Resource References

Appendix E: Soils Information

Appendix F: Parks and Open Spaces

Appendix G: Storm Water Management Plan

Appendix H: Community Survey

Appendix I: Maps

Appendix J: [Article IX. Sewage- Afton Code of Ordinances. Sewage Treatment System Inspection Services Agreement & Ordinance](#)

Appendix K: Afton Flora and Fauna

Appendix L: Public Involvement in Comprehensive Plan Process

[Appendix M: City of Afton Wastewater Collection and Treatment System Facility Plan](#)

CITY OF AFTON 2008 COMPREHENSIVE PLAN

APPENDICES