



2040 Comprehensive Plan

Plan complete Spring 2021

BIRCHWOOD VILLAGE 2040 COMPREHENSIVE PLAN

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CHAPTER 1: COMMUNITY CONTEXT

Introduction

The City of Birchwood Village is a small community located on the southeast shore of White Bear Lake. The community is easily accessible to the greater Twin Cities Metropolitan Area region and is located approximately 13-miles from downtown Saint Paul, 20-miles from downtown Minneapolis and 22-miles from the Minneapolis-Saint Paul International Airport. Because of the community’s accessibility, high-quality neighborhoods, and proximity to White Bear Lake the City continues to be a desirable place for residents to live and recreate.

The purpose of this chapter is to provide context from which subsequent chapters of this plan were derived. Included in the following summary is the City’s historical setting, existing demographic and socio-economic conditions, and market snapshot. The following sections are used to help inform the Land Use, Parks & Open Space, Transportation and Infrastructure sections of this Comprehensive Plan update.

Location, Historical Setting, Governmental Structure & Community Goals

The City is located on the far western edge of Washington County, and is connected to major roadways including County Road E and I-694. The City’s location within the region coupled with the small-town village character, makes the community a highly desirable place for residents to live and recreate. The City is truly a small “village” comprising only 214 acres with an estimated 2016 population of 869 residents of all ages. The community’s relatively compact land area and small population fosters a small-town, quaint environment with invested long-term residents and strong neighborhoods. As further detailed within Chapter 2: Land Use, the community is designated by the Metropolitan Council as “Suburban,” and while this designation accurately describes the City’s location within the region it does not reflect the community’s character or historical past. Providing a brief historical context of the Village is an important way to differentiate the community from other more typical suburban communities.

HISTORICAL SETTING

Birchwood Village was incorporated as a Village in 1921. A subsequent act of the State Legislature converted the “Village” to a “City of the Fourth Class.” Though the State Statute required Birchwood Village to evolve from a village into a city, residents continued to strongly associate the character and identity of the community as a “Village.” Because of that association, when the City incorporated it amended its name to become Birchwood Village to reflect the residents’ continued commitment to its small village character.

Birchwood Village first developed as a community of summer recreation cottages built by residents of the Saint Paul area in the early 1900’s. Initial subdivisions occurred along the lakeshore, which continues to define the land use pattern today. Although remnants of this pattern can still be seen, housing development along the shore became more diverse as the City evolved from a vacation town to a place for permanent residences. Most of the historical homes have been extensively remodeled to meet modern lifestyles, while others have been torn down and new homes constructed. This makes for a diverse housing pattern where new and old are successfully integrated. Inland from the lakeshore, newer subdivisions have larger lots and the homes are more homogeneous in appearance. Even though homes are more consistent in appearance, the character of the Village is preserved through how homes were sited to respect the rolling topography and original tree canopy.

In addition to the impact of natural features of the community, the historical presence of a streetcar line impacted the City's land use and development pattern. The City was served by the Twin City Lines streetcar. The line went to Mahtomedi then to White Bear Lake through Birchwood Village. The other line went from Mahtomedi to Stillwater. There were several streetcar stops in Birchwood Village. This made "coming to the Lake" much easier for St. Paul residents. The older portions of Birchwood Village were influenced by this streetcar line and those characteristics are still distinguishable from newer developed neighborhoods.

One of the most defining characteristics of the community is its lack of commercial or business uses, and its commitment to single-family residential and open space uses. This land use pattern extends back to when the community was first developed as a vacation spot and has been reinforced by the City's ordinances as it continued to grow and evolve into a place with permanent residences.

Though the City's historical identity as a vacation town played a significant part in establishing how the community developed, today there are no local, state or federal historically designated properties in Birchwood Village. However, just because no properties have been pursued for historical designation, that is not to say there are not properties or areas of historical value either at the local or regional level. While the City does not plan to actively pursue formal historical designation, it is willing to create a policy that addresses preservation in the future if needed.

GOVERNMENTAL STRUCTURE

Birchwood Village is a City of the Fourth Class with a City Council form of government. The City Council consists of the Mayor and four council members who are elected at large. Each member has ongoing responsibilities between meetings. Several supporting commissions and committees also help to serve the community. These include the Planning Commission, Personnel Committee, and Water/Utility Committee. Task forces are created for more specific needs.

The City has five employees: one full-time City Administrator-Clerk, one part-time City Treasurer-Deputy Clerk, one on-call office worker and two on-call maintenance workers. The elected officials, appointed officials, and residents provide many volunteer hours to the City to perform needed services. Some municipal services such as sewer maintenance, police and fire protection are contracted primarily from nearby government agencies. Private contractors maintain the water system and provide building inspections and engineering and planning services.

COMMUNITY CONTEXT GOALS

The community's historical setting, local and government structure all provide background information from which the City can use to plan for its future. To help guide the general direction of the community, the City has identified the following goals and principles for this planning period:

- Maintain the existing character of the community through preservation of the single-family residential land use and neighborhood patterns.
- Preserve, protect and educate the community about the value and preservation of the City's natural areas including woodlands, wetlands, and lakes.
- Maintain and improve municipal services to ensure the health, safety and general wellbeing of Birchwood Village residents of all ages.
- Maintain the autonomy of Birchwood Village as a governmental entity.
- Preserve the community's identity and character through existing traditions such as the July 4th parade, annual children's Christmas party, music in the park, and village newsletter.

- Work to identify opportunities to reduce energy usage by 10% per year.
- Monitor and maintain all City property, structures and assets.
- Support and increase volunteerism in Birchwood Village.
- Increase communication of community happenings and projects.
- Prepare for emergencies and explore opportunities to improve the community’s resilience and long-term sustainability.
- Create safer walking areas throughout the Village

This core set of general goals and principles is like those of the 2020, and 2030 Comprehensive Plans. This indicates residents, community members and policy-makers desire to maintain the community in a similar way through this planning period.

Throughout the remaining chapters of this Plan, each topic area includes a set of goals and principles to help establish the community’s aspirations for the future.

Demographic and Socio-Economic Characteristics

Most of the City’s demographic and socio-economic characteristics have remained relatively constant over the past decade with little change. As demonstrated in subsequent chapters of this Plan, the City is fully developed with primarily single-family residential uses. It therefore comes as no coincidence that the number of households in the community has been relatively constant for the past 20 years and is expected to remain similar through this planning period. However, even with much of the community remaining unchanged, there are some trends worth noting because they impact this Plan, or future planning efforts in the community. The following snapshot of community characteristics is provided as consideration in this Plan.

HOUSEHOLDS AND POPULATION

The number of households in the City has remained relatively constant for the last 16 years with 357 households in 2000 and 359 in 2016. New construction and redevelopment in the City have been located primarily on existing lots where an existing home was torn down and replaced by a new (oftentimes larger) construction home. During this same period, the population has decreased approximately 10% from 968 in 2000 to 869 in 2016. The Metropolitan Council forecasts little change in the number of households from 2020 through 2040; but also forecasts a continued decrease in population. The population is likely to decrease as its resident’s age and their children leave home. The City anticipates no additional net households through 2040, although a few large lots remain that could be subdivided, and the tear-down and major remodeling trend is likely to continue.

Table 1-1: Birchwood Village Population and Households (Historical & Projected)

| Year | Population | Households |
|------|------------|------------|
| 1970 | 926 | 235 |
| 1980 | 1059 | 326 |
| 1990 | 1042 | 364 |
| 2000 | 968 | 357 |

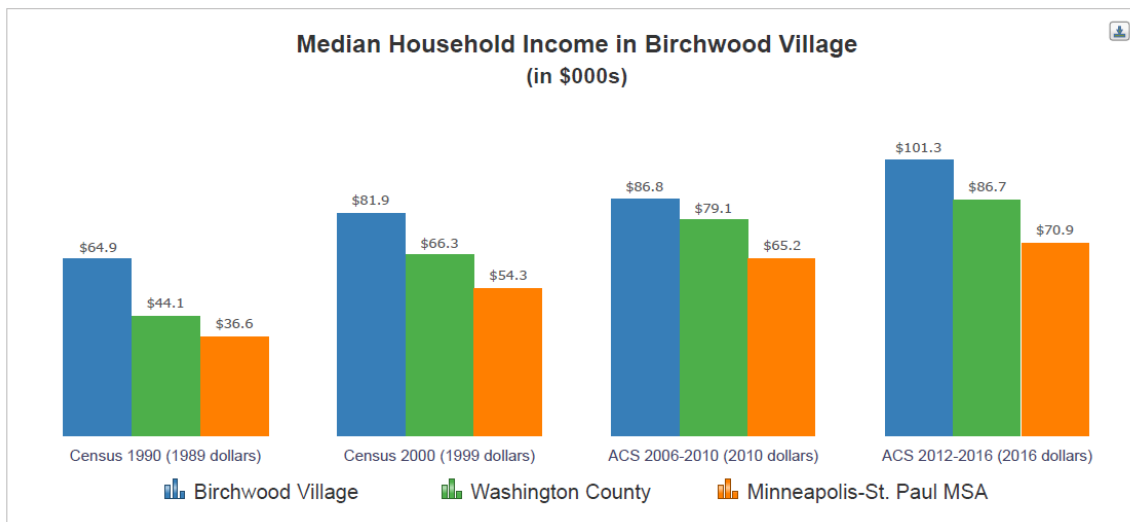
| Year | Population | Households |
|------|------------|------------|
| 2010 | 870 | 351 |
| 2016 | 869 | 361 |
| 2020 | 850 | 360 |
| 2030 | 830 | 360 |
| 2040 | 800 | 360 |

As the City’s population ages, the community will need to adjust to the changing and evolving needs and demands of its residents across generations. For example, residents may require improved/increased access to services such as transit, transportation mode choice, ADA accessibility or better trail/sidewalk connections as opposed to programmed park spaces. The City will need to monitor its public facilities, roadways and parks and may need to adjust programming, access, and delivery of services to better accommodate the City’s residents. The City may face an increase of vacant homes/properties during winter months for residents who choose to winter in warmer climates. These factors can become financially challenging for the City and for those residents that reach retirement age and are on a fixed-income. These population changes will occur gradually. The City should routinely check with the government agencies who track this information as well as try to anecdotally track this trend.

HOUSEHOLD INCOME

As shown in Figure 1-1, the City’s Median Household Income has been higher than that of Washington County, in which Birchwood Village lies, and the Minneapolis-St. Paul MSA since the 1990s. Additionally, Birchwood Village’s median income has outpaced the region over the last decade. According to data from the 2010 U.S. Census, Birchwood Village is estimated to have the 20th highest average per capita income in Minnesota.

Figure 1-1: Median Household Income in Birchwood Village



Source: US Census, ACS 2012 – 2016

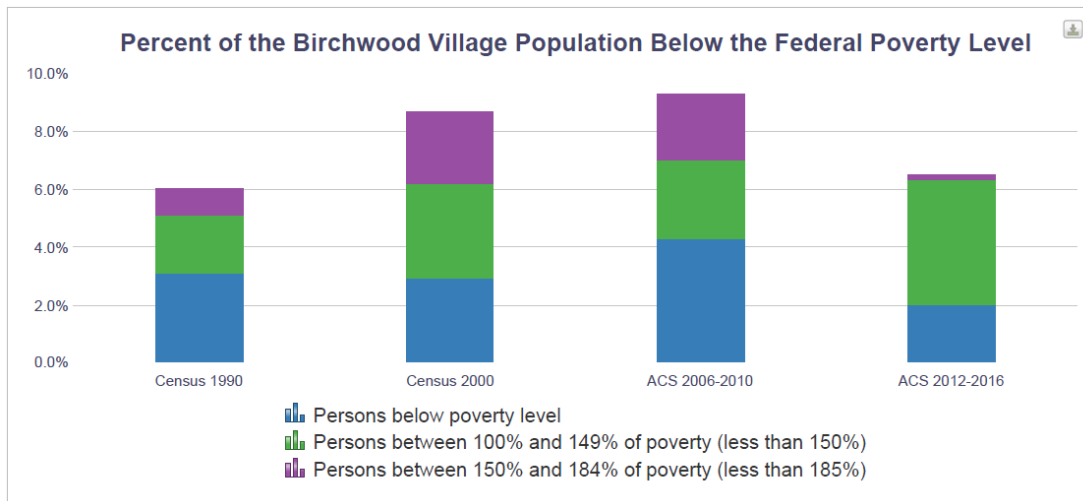
Because of the community’s accessibility to White Bear Lake and the recovering real estate market, it becomes more likely that small homes and cottages will be either torn down or experience major remodeling. This situation further

depletes affordable housing in the community.

The increased value of homes in the community will squeeze out many of the older summer cottages and residents with lower incomes. As property becomes more valuable, property taxes will continue to increase. Meanwhile, aging residents will see their disposable income stabilize or decrease thus posing hardship to afford their homes. This will become a factor which might force long-time residents to find alternate housing options and leave the community.

The trend of displacement is already emerging as demonstrated on Figure 1-2 which illustrates the percentage of Birchwood Village’s population at or below the federal poverty level. As shown, the percentage of the City’s population rose during the recessionary period (reflected on ACS 2006 – 2010) but has since decreased. While some of this decrease is likely attributed to residents improving their wages or employment since the recession, it also likely represents some of the lower-income residents’ displacement due to rising housing costs in the community.

Figure 1-2: Percent of Population Below Poverty Level



Source: US Census, ACS 2012-2016

EMPLOYMENT

The City prohibits commercial and industrial development. The City employs one full-time employee, four part-time employees and several seasonal, part-time park and recreation employees. Residents may have a business in their home (home occupation) with conditions and proper permits. These City regulations will likely limit changes in employment opportunities in the community.

RESIDENTS WHO WORK FROM HOME

The City has never tracked the employment of its residents. It does not know for certain how many of its residents work from home either full-time or part-time, let alone exact number of residents who are employed (either full-time or part-time).

The number of people telecommuting in the U.S. increased 115% between 2005 and 2015.

Nationally:*

- 2.9% of the total U.S. workforce, work from home at least half of the time.
- The average telecommuter has at least a bachelor's degree and earns a higher median salary than an in-office worker.
- The average telecommuter is 46 years of age or older.
- Telecommuting is more common among employees over 35 years of age and most common among baby boomers.
- Roughly the same population of women and men telecommute.

This trend will affect Birchwood Village in several ways:

- People who have retired may continue to work or work part-time.
- IT infrastructure changes may be necessary as teleworkers need access to company systems, software, and data.
- As of 2019, the City has little to no leverage in bettering cable or Internet connection.
- If more people are working from home, they may be more aware of normal city distractions from neighbors, construction, and children.
- More people working from home will be consuming more water, flushing more toilets, and driving less on our streets.

*<https://www.flexjobs.com/blog/post/8-interesting-stats-about-working-from-home/> *8 New Stats About Working from Home*, Brie Weiler Reynolds, June 27, 2017

INTERNET CONNECTIONS

Currently, most of the City's Internet connection is from Comcast; CenturyLink also offers internet service to residents in Birchwood Village. Eventually, small cell wireless providers are expected to ramp up speed and accessibility. This also relates to the "5G" type of service. All Internet providers must go through and on public property. Comcast is roughly governed by the Ramsey-Washington Cable Commission. The Commission has some power over this monopoly, but its power is limited by FCC rulemaking authority. In the future, there may be cell towers in/on utility poles which will increase wireless Internet access.

CHAPTER 2: LAND USE

Introduction

The City of Birchwood Village is a small, fully-developed community located on the southeast shoreline of White Bear Lake. Developed originally in the early 1900s as a collection of small summer cottages that dotted the shoreline; it was a destination for Saint Paul residents looking for respite from the City. Naturally, as the lakeshore became more developed, other parts of the community began to grow, and small meandering roadways were constructed with summer cottages that were still within proximity to the Lake. Eventually, new regional roadways and infrastructure became available that made it possible for residents to call Birchwood Village their permanent home – not just their summer getaway.

Even though the community transitioned over the course of several decades, much of the existing land use pattern today remains a reflection of the community’s historical roots as a resort town. Roadways still meander, easements to provide lake access run between existing homes, and many original cottages remain but with updates and additions to make them habitable on a year-round basis.

The land use pattern today is reminiscent of Birchwood Village’s past, and is the foundation for the City’s future. Generally, the community hopes to maintain the existing character of Birchwood Village for generations to come. With that objective in mind, the subsequent sections of this Chapter provide a roadmap to preserving the City’s land use and neighborhood patterns and does not plan for wholesale changes in the community. However, this Plan still provides an opportunity for the community to consider how it might approach change if it presents itself, and to ensure that any redevelopment in the community is completed in a manner that is consistent with the goals and objectives of this Plan.

The intent of this Chapter is to describe the existing and planned land use and neighborhood patterns, and to define how these land use patterns will continue to support the identity and character of the community through this planning period.

Planning Context

The planning context of the 2040 Comprehensive Plan is an important consideration in the preparation of this Land Use chapter and of subsequent sections of this Plan update. The following sections are provided to help explain why the City initiated this process, and how the regional and local planning context were used to inform the update of this Chapter.

METROPOLITAN COUNCIL POLICY GUIDELINES

As described in Chapter 1: Community Context, the City of Birchwood Village is located on the far western edge of Washington County. As a community located within the 7-County Metropolitan Area, the City is within the Metropolitan Council’s jurisdiction which requires communities to prepare an update of their Comprehensive Plans for consistency with regional systems on a decennial basis. In the years preceding the required decennial update, the Metropolitan Council issues a System Statement for every city which describes what updates must be included within each community’s Plan.

Each community is assigned a Community Designation based on the geographic location of the community, the existing land use patterns and anticipated growth based on regional trends and planned regional improvements. As previously noted, Birchwood Village is fully developed and its existing land use pattern is predominantly low-density residential use, composed primarily of single-family residential structures. Communities with this land use pattern are generally designated by the Metropolitan Council as “Suburban” (see Figure 2-1). For each community designation, the Metropolitan Council describes the Community’s Role with respect to *Orderly and Efficient Land Use*. The identified *Community Roles for Suburban communities* are as follows:

- Plan for forecasted population and household growth at overall average densities of at least 5 units per acre, and target opportunities for more intensive development near regional transit investments at densities and in a manner articulated in the 2040 Transportation Policy Plan.
- Identify areas for redevelopment, particularly areas that are well-served by transportation options and nearby amenities and that contribute to better proximity between jobs and housing.
- In collaboration with other regional partners, lead major redevelopment efforts.
- Lead detailed land use planning efforts around regional transit stations and other regional investments.
- Plan for and program local infrastructure needs (for example, roads, sidewalks, sewer, water, and surface water), including those needed to accommodate future growth and implement local comprehensive plans.

Because Birchwood Village is geographically small, many of the roles identified above are not fully applicable, such as transit and major redevelopment efforts. However, the concept of several of the identified roles are relevant and should be used to help guide the community through this planning period. For example, while there are no significant regional roadway or transit improvement planned within the City, there are improvements planned in adjacent communities that could provide opportunities to the City for a more connected community to the greater region. Though the City is fully developed it does not preclude someone from potentially redeveloping a parcel or collection of parcels provided that such development is consistent with the Community Roles with respect to density.

In addition to the *Community Designation* and correlated *Community Roles*, the *System Statement* includes the Metropolitan Council’s projected population, households and employment forecasts for the City through this Planning Period. Table 2-1 shows that the Metropolitan Council does not anticipate significant changes in the City’s land uses as demonstrated by the Household and Employment forecasts. Nonetheless, the population is projected to continue to decrease even as households stay flat. With respect to the City’s land uses, the decreasing and aging population will impact what types of facilities, services, park programming, and access will be needed and demanded by residents of the community. These trends were used as a foundation to the subsequent section of this chapter, and other sections of this Plan update.

Table 2-1. Population, Households, and Employment Forecasts

| Year | Population | Households | Employment |
|------|------------|------------|------------|
| 2020 | 850 | 360 | 30 |
| 2030 | 830 | 360 | 30 |
| 2040 | 800 | 360 | 30 |

(Source: 2015 Birchwood Village System Statement - Metropolitan Council)

Figure 2-1. Metropolitan Council Community Designation



Thrive MSP 2040
Community Designation
 Suburban



DRAFT

Source: Metropolitan Council,
Birchwood Village, Washington
County

Date: 9.20.2017
Prepared by: SHC, LLC

COMMUNITY CONTEXT

The Regional Context provides a broad overview and structure from which this Plan update was developed, but the local context provides additional refinement to ensure that this Land Use plan reflects the goals and aspirations of the community through this planning period.

To effectively manage and maintain the community's land uses the City has developed a set of policy guidelines to guide the community through this planning period. The following policy guidelines were included within the 2030 Comprehensive Plan and have been updated, where applicable, to reflect the aspirations of the community moving forward through this planning period.

Land Use Goals & Objectives

The following goals and objectives will be used to help guide land use decisions in the City through 2040:

1. Maintain the existing character of the community by permitting growth that is consistent with the land use designations contained within this plan.
2. Work to create and enforce ordinances and policies that regulate new construction of housing that follows appropriate building codes.
3. Create ordinances and policies that promote sustainability of existing and new residential structures through site planning standards that incorporate considerations for natural hydrology, drainage and other unique physical/natural features.
4. Continue to enforce ordinances that prohibit the development of commercial, industrial and high-density residential uses.
5. Protect important natural resources from new development and redevelopment impacts by establishing and enforcing proper ordinances and permitting procedures. (e.g. wetland protection, lakeshore/shoreland protection, and significant tree preservation ordinances, etc.)
6. Promote maintenance of existing homes, properties and natural areas.
7. Maintain the City's high-quality residential neighborhoods.
8. Protect and preserve the City's tree canopy and significant healthy trees by enforcing the Significant Tree ordinance that establishes maintenance, removal and replacement standards.
9. Review ordinances intended to monitor, inspect, and remove invasive species.

Existing Land Use

The existing land use pattern reflects Birchwood Village's commitment to foster, improve and preserve its quaint "Village" and single-family neighborhood character. Throughout its history, the City has continued to reinforce its Village and "resort" town character by carefully regulating new development and redevelopment of remaining lands to continue the existing low-density residential neighborhood patterns. To that end, the City has prohibited the development of commercial, industrial or high-density housing, and has prioritized the protection of natural resources as part of any new development in the community. With these limitations, Birchwood Village has remained almost completely developed with single-family residential uses (88%). Little to no additional residential development has occurred since 2008 because the community is fully developed, and there has been little to no pressure for redevelopment. A few larger lots remain that have the potential to be further subdivided based on current subdivision and zoning standards, but these areas would be required to develop with uses consistent with the existing neighborhood

patterns. After single-family residential uses, the City’s remaining land areas are primarily used for right-of-way, institutional and parks/open spaces. The City owns and manages three public parks and one natural area/open space and owns various trails and six lake access easements sprinkled throughout the community that provide connections to the City parks and to White Bear Lake. (See Figure 2-2 Existing Land Use).

Generalized Existing Land Use (ELU)

The following definitions are provided for each existing land use as shown on Figure 2-2. The following definitions are the Generalized Land Use definitions as provided from the Metropolitan Council. The definitions that follow do not attempt to describe what the current/existing zoning is of a property, or what the planned or allowed uses might be. Rather the following land use designations describe the current and existing use of a property based on a snapshot in time and help describe and illustrate the current neighborhood patterns of the community.

Single-Family Detached – Land use exclusively for residential purposes containing a single dwelling unit that is detached from any other residential dwelling units (i.e., with open space on four sides, includes townhomes).

Seasonal/Vacation – Land used exclusively for residential purposes containing a single dwelling unit that is occupied seasonally or used as a vacation property.

Undeveloped – Land not currently used for any defined purpose that may or may not contain buildings or other structures or has no discernable use based upon the aerial photos or available data. Undeveloped land may include non-protected wetlands or land currently under development.

Park, Recreation or Preserve – Land used for park and recreational assembly (ex: community level ball fields, small urban parks – public playgrounds, rest areas, and other venues – indoor or outdoor – for sporting recreation or like purposes). Also includes passive activity uses such as park preserves, wildlife refuges, habitat area, public hazards, river walk, MN DNR owned land, greenways and other public or private preserved land.

Table 2-2 identifies the existing land uses in the community and calculates the total acres and percentage composition of each land use.

Table 2-2. Current Generalized Land Use Tabulation (Acres)

| Land Use* | Acres | Percent of Total |
|--------------------------------|------------|------------------|
| Single-Family Detached | 188 | 87.82% |
| Seasonal/Vacation | 2 | 0.96% |
| Park, Recreational or Preserve | 17 | 8.12% |
| Institutional | 1 | 0.42% |
| Undeveloped Land | 6 | 2.64% |
| TOTAL | 214 | 100% |

*Local right-of-way (ROW) included within land use acre calculation

Source: Metropolitan Council, SHC

Figure 2-2. Existing Land Use & Zoning



**Existing Generalized Land Use
(Metropolitan Council 2016)**

- | | |
|---|---|
| Single Family Detached | Open Water |
| Seasonal/Vacation | Park, Recreational, or Preserve |
| Institutional | Undeveloped |

DRAFT



Source: Metropolitan Council, MnDNR, Birchwood Village, Washington County

Rev. Date: 4.1.2019
Date: 9.20.2017
Prepared by: SHC, LLC

Future Land Use

Birchwood Village’s focus is primarily on maintaining the existing homes and neighborhoods and ensuring that the existing character and uses continue to define the City through this planning period. Since the community’s priority is to remain relatively unchanged through this planning period, the Future Land Use plan contained in this chapter directly responds to the intent of Birchwood Village to continue to be a primarily single-family residential community.

To that end, the community has guided the majority of its future land uses for low density residential uses that will work to preserve existing neighborhood patterns even if redevelopment occurs on individual lots. The City does not intend to permit or re-guide any land within the community for higher density residential uses, or to introduce commercial or business uses into the community. Current infrastructure including roadways, water, and sanitary sewer are designed to support the existing development and no significant improvements of these infrastructures are planned. Future land uses are reflective of the City’s existing neighborhood patterns, and planned uses through this planning period. The following future land use designations describe the intended land use patterns for this planning period.

Future Land Use Designations

Low Density Residential (LDR)

This land use designation identifies land currently used or planned to be used for predominantly single-family residential uses. This designation applies to all of the City’s existing neighborhoods which were developed at densities between 3 and 5 dwelling units per acre. Any redevelopment, or development of vacant parcels, will be developed at densities no less than 5 dwelling units per acre and up to 6 dwelling units per acre.

Institutional

Land that is used for municipal buildings.

Parks/Open Space

Land designated as park or open space is owned and managed by the City of Birchwood Village. Land within this designation is used for active and passive recreational uses, including trails, parks, open spaces and wetland areas.

Right-of-Way (ROW)

Land used exclusively for roadways/rights-of-way.

Table 2-3. Future Land Use Total Acreage

| Future Land Use | Residential Density | Acres | Percent of Total |
|-------------------------|---------------------|--------|------------------|
| Low Density Residential | 3.0 – 5.0 | 169.98 | 78.9% |
| Institutional | NA | 0.80 | 0.4% |
| Parks/Open Space | NA | 10.29 | 4.8% |
| ROW | NA | 33.21 | 15.5% |
| TOTAL | | 214.28 | 100% |

Source: City of Birchwood Village, SHC

Figure 2-3. Planned Land Use & Zoning



Planned Land Use & Zoning

- Residential (Low Density 5-6 d.u./acre)
- Institutional
- Parks/Open Space
- ROW

DRAFT



Source: Metropolitan Council, MnDNR, Birchwood Village, Washington County

Rev. Date: 4.1.2019
 Date: 9.20.2017
 Prepared by: SHC, LLC

Table 2-4. Future Land Use Forecast Acreage per Decade

| Future Land Use | Residential Density | 2020 Acres | 2030 Acres | 2040 Acres |
|-------------------------|---------------------|------------|------------|------------|
| Low Density Residential | 3.0-5.0 | 169.98 | 169.98 | 169.98 |
| Institutional | NA | 0.80 | 0.80 | 0.80 |
| Parks/Open Space | NA | 10.29 | 10.29 | 10.29 |
| ROW | NA | 33.21 | 33.21 | 33.21 |
| TOTAL | | 214.28 | 214.28 | 214.28 |

Source: City of Birchwood Village, SHC

Areas Planned for Change or Redevelopment

The City of Birchwood Village is considered fully developed and the only opportunity for change in the community would be due to redevelopment. The City's Future Land Use plan guides the majority of the land within the community for low density residential uses and plans for the continuation of the existing uses through this planning period. While the existing land use pattern is planned to continue, the City will likely continue to see more modest changes such as remodels and additions. While these activities do not constitute a change in use, remodeling and additions does have the potential to alter the character of the community.

There is a high potential for tear downs of existing homes and redevelopment of individual lots but low chance of an assembly of a collection of lots for redevelopment. While these activities have not occurred very often, depending on market conditions, the pressure and interest for redevelopment could become more frequent. If and when redevelopment is proposed, the City will follow this Comprehensive Plan and will continue to reinforce the single-family residential neighborhood patterns of the community. Finally, while there are no currently known development or redevelopment plans, at time of redevelopment the City will continue to prioritize and focus on the preservation, enhancement and protection of the City's natural resources.

CHAPTER 3: HOUSING

Introduction

The purpose of this housing chapter is to present and describe the City's existing housing stock, and to use the information as a basis from which to plan for future housing needs in the community.

Birchwood Village is entirely developed for residential use and there are no independent commercial or business uses permitted in the community. Although the City's households and population are anticipated to stay relatively unchanged over this planning period, that does not mean there will not be any changes to the housing stock. As described in subsequent sections of this chapter, the City's housing stock is aging, which means that maintenance, rehabilitation, remodeling and in some cases redevelopment of existing lots are likely to become more prevalent.

Information contained in the following sections is a compilation of data collected primarily from the US Census, American Community Survey and the Metropolitan Council. Because the City is small, sometimes the information from these resources does not adequately describe the challenges and opportunities Birchwood Village faces, and therefore the data collected from these resources is supplemented with information from the City.

Housing Goals & Objectives

An important element of the housing plan is to establish a set of principles and goals to help guide the City through this planning period. The City identified a set of goals and objectives as part of the 2030 Comprehensive Plan that have been updated to reflect the community's direction for 2040. The housing principles and goals established by the City are as follows:

- Continue to support efforts to maintain a balanced housing supply and will focus on opportunities to provide housing for people at all income levels.
- Embrace and welcome diversity in all of its neighborhoods and will support such diversity in both owner-occupied and renter-occupied housing.
- Encourage and promote lifecycle housing within the existing housing stock, and in any new or redeveloping areas of the community.
- Maintain and enhance the existing housing stock that supports diversity in both owner-occupied and renter-occupied housing to promote the long-term sustainability of the community.
- When passing or updating ordinance(s), calculate if the ordinance will affect housing affordability or remodeling.
- Protect the existing single-family detached housing density and neighborhood quality.

In addition to the City's identified goals and principles, the community must consider and address the housing policies and directives established by the Metropolitan Council for Suburban Communities as described within the 2015 Birchwood Village System Statement. The defined role includes the following housing practices that may be applicable for Birchwood Village:

- Designate land in the comprehensive plan to support household growth forecasts and address the community's share of the region's affordable housing need through development and redevelopment at a range of densities.

- Use state, regional, and federal sources of funding and/or financing and development tools allowed by state law to facilitate the development of new lifecycle and affordable housing.
- Plan for affordable housing that meets the needs of multigenerational households.
- Invest in and expand regional systems to support redevelopment in communities that partner in the preservation and expansion of housing choices.

Because the City is fully developed there are few, if any, opportunities for redevelopment in the community particularly given the existing land use pattern. However, the City will consider and evaluate any new proposed development for consistency with the Metropolitan Council’s roles and the City’s identified principles and goals.

Existing Housing Stock

OVERVIEW OF BIRCHWOOD VILLAGE’S RESIDENTIAL NEIGHBORHOODS

The City of Birchwood Village’s residential neighborhoods have evolved over time transitioning from primarily seasonal/vacation cottages to permanent residences that now make up almost all of the City’s housing stock. Though the community is relatively homogenous in the land use, which is dominated by single-family detached product, there is a little bit of every housing style available in the community. The diversity of housing contributes to the City’s “village” character since no two streets or blocks look the same. Lots and homes were built and developed at different times with some areas filling in over the span of several decades. This results in a development pattern that feels more organic, in contrast to some of Birchwood Village’s more suburban neighbors. This development pattern has also resulted in an existing supply that is both unique and aging. The following existing characteristics of Birchwood Village’s housing supply provide a baseline from which the City can consider potential housing needs and demands.

HOUSING STOCK STATISTICS

According to the data from the Metropolitan Council and the City of Birchwood Village, there are 369 housing units in the City as of 2016. As a fully developed community, new residential development in Birchwood Village has been limited since the 1990s. Since 2000, only 15 new units have been constructed that were mostly the replacement of an existing home or cabin.

Housing Tenure

Of the 369 units, 342 units (93.2%) are owner-occupied, and 25 units (6.8%) are rented; according to data from the Metropolitan Council (Table 3-1).

Table 3-1: Housing Tenure 2016

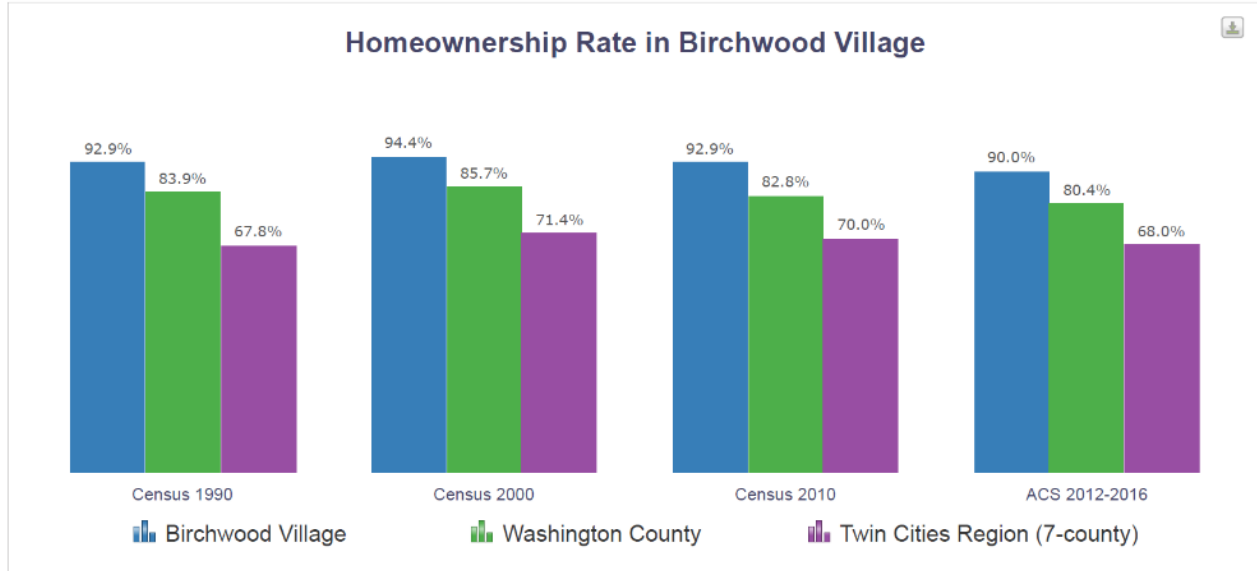
| Ownership Units | Rental Units | Total Units |
|-----------------|--------------|-------------|
| 344 | 25 | 369 |

Source: Metropolitan Council, U.S. Census Bureau, 2012-2016 American Community Survey five-year estimates

The City’s distribution of owner-occupied units to renter-occupied units is significantly higher than the ratios experienced in both Washington County and the 7-county metropolitan area as shown in Figure 3-1. As shown, the Birchwood Village’s home ownership rate was approximately 90% in 2012 as compared to 80% in Washington County and 68% in the 7-County metropolitan area. One likely reason for Birchwood Village’s higher home ownership

rate is the lack of availability of multi-family housing which is more commonly associated with renter-occupied units, but it is also likely an indicator of relatively high housing values within the existing single-family housing stock.

Figure 3-1. Housing Tenure of City, Washington County and 7-County



Source: Metropolitan Council, US Census, 2012-2016 ACS

Housing Type

Correlated to housing tenure is housing type. Overall, Birchwood Village is not balanced with respect to its housing stock as it is predominantly single-family homes (93%). Even though the housing stock is unbalanced, this is not a cause for concern because of the relatively small number of units and size of the community. There are a limited number of multi-family housing units which provide some housing choice within the community. See Table 3-2: Housing Type.

Table 3-2: Housing Type

| Single-family Units | Multi-family Units | Manufactured Homes | Other | Total Units |
|---------------------|--------------------|--------------------|-------|-------------|
| 350 | 19 | 0 | 0 | 369 |

Source: Metropolitan Council, 2016 housing stock estimates. Single-family units include single-family detached homes and townhomes.

Multifamily units include units in duplex, triplex, and quadplex buildings as well as those in buildings with five or more units

Year Built

Nearly 80% of Birchwood Village’s housing stock (288 units) is more than 45 years old. Because of the age of structures in the community, it will be important to track the conditions of the older homes because they are at-risk of deferred maintenance, which can rapidly result in critical structural problems or accelerate major remodel/tear-downs. At the same time, well-maintained older housing can be an important source of entry-level housing particularly if they have not experienced major remodeling and additions. It will be important for the City to monitor the condition of the older housing stock, considering its desire to maintain housing and neighborhood quality; as well as retain some affordability in the community. See Figure 3-2, Age of Residential Structures. The City will strive to survey the ages

of homes and remodeling and update this survey every two years.

Housing Affordability

The Metropolitan Council considers housing affordable when low-income households are spending no more than 30 percent of their income on housing costs. Households are considered low-income if their income is at or below 80 percent of the metropolitan area’s median income (AMI).

In Birchwood Village, the housing stock is becoming increasingly less affordable, particularly as major remodeling, tear downs, and improvements become more prevalent. In 2016, the Median home value in Birchwood Village was approximately \$321,000 which exceeds the median Seven-County Metropolitan Area sales price of \$247,900 for a single-family home (Minneapolis Association of Realtors). As shown on Figure 3-3, the majority of the more expensive housing units are located along the lake frontage and have experienced the most significant remodeling over the past several decades. In 2016, there remains a portion of the existing housing stock that meets the Metropolitan Council’s criteria for affordability as demonstrated in Table 3-3.

Table 3-3: Affordability of Units by Income Level

| | Birchwood Village | % of All City Housing Units | Metro Area % of all Housing Units |
|---|-------------------|-----------------------------|-----------------------------------|
| Units affordable to households with income at or below 30% of AMI | 4 | 1% | 6.5% |
| Units affordable to households with income 31% to 50% of AMI | 2 | >1% | 21.8% |
| Units affordable to households with income 51% to 80% of AMI | 76 | 20.6% | 39.9% |
| Total Units at or below 80% AMI | 82 | 22.2% | 68.3% |

Source: Metropolitan Council (2016 and 2017 Metro GIS Regional Parcel Data; US Census, 2012-2016 ACS)







Birchwood Village has no publicly subsidized housing units. Based on information collected, nearly a quarter of the City’s owner-occupied units are affordable at or below 80% AMI, which given the City’s relatively small size represents a fairly significant proportion of units. Due to the reasonable rate of affordability, coupled with the City’s unlikeliness to redevelop, the Metropolitan Council has not allocated a need for new affordable housing units in Birchwood Village through 2040.

Although Birchwood Village has a reasonable proportion of affordable units per the Metropolitan Council’s definition, there are some observable trends that suggest that the cost of housing in the Village could rise rapidly in the coming years making the community less affordable. Market pressure in the for-sale housing market throughout the region has experienced significant increases in the past couple of years. Since Birchwood Village is dominated by owner-occupied/for-sale housing, the regional market trends have the potential to significantly impact the community’s long-term affordability. The City is likely to continue to face pressure for tear-downs/rebuilds given the proximity to the lake and average age of housing stock. Not only will increased investor interest raise prices, but new or significant rebuilt homes that are much larger will also result in market-wide increases. New builds have the potential to undermine the goal of maintaining the “village” character of Birchwood Village, as investors and developers are less likely to be concerned with preserving the history and character of the area. These trends are important to consider if, and when, new policies are implemented that could impact housing in the community.

Figure 3-2. Age of Residential Structures



**Age of Housing
Year Built**

| | | |
|--|---|---|
|  Vacant/ROW/PSP |  1932 - 1961 |  1981 - 1997 |
|  Pre-1931 |  1962 - 1980 |  1998 - 2016 |



DRAFT

Source: Metropolitan Council,
Birchwood Village, Washington
County

Date: 9.20.2017
Prepared by: SHC, LLC

Figure 3-3. Estimated Market Value of Residential Structures



| EMV of Residential Properties | |
|-------------------------------|-------------------------|
| Light Green | \$256,201 - \$485,600 |
| Yellow | \$400 - \$85,100 |
| Blue | \$485,601 - \$819,100 |
| Dark Blue | \$819,101 - \$1,679,800 |
| Light Green | \$85,101 - \$256,200 |

DRAFT
 Source: Metropolitan Council, Birchwood Village, Washington County
 Rev. Date: 9.13.2018
 Date: 9.20.2017
 Prepared by: SHC, LLC

COST BURDENED HOUSEHOLDS

Cost burden is the proportion of household income spent toward housing and utilities. When lower income households spend more than 30 percent of their income toward housing and utilities this burden is considered excessive because it begins to limit the money available for other essentials such as food, clothing, transportation, and healthcare. Table 3-4 presents the number and percentage of low-income Birchwood Village households that are cost burdened and compares this against the metro area rate of cost burdened low-income households.

Table 3-4: Cost Burdened Households by Income Level

| | Birchwood Households | % of all households | Metro Area % of all households |
|--------------------------------------|----------------------|---------------------|--------------------------------|
| Income at or below 30% of AMI | 8 | 2.2% | 10.0% |
| Income 31% to 50% of AMI | 26 | 7.0% | 7.4% |
| Income 51% to 80% AMI | 3 | 0.8% | 5.8% |
| Total households at or below 80% AMI | 37 | 10.0% | 23.2% |

Source: U.S. Department of Housing and Urban Development, 2010-2040 Comprehensive Housing Affordability Strategy (CHAS) data, with counts adjusted to better match Metropolitan Council 2016 household estimates.

Projected Housing Needs

As referenced in Chapter 2: Land Use, the Metropolitan Council’s 2015 System Statement forecasts that Birchwood Village will not expand the number of total housing units in the community. The existing community is fully developed, and planned land uses guide any redevelopment to occur consistent with existing land use and neighborhood patterns.

Even though the community is not projected to add households, that does not mean there will not be continued pressure for tear downs and major remodels. The community is supportive of continued investment into existing homes and neighborhoods but acknowledges that this may come at the expense of some of the more affordable housing options in the community and preservation of the “village” feel. As the City continues to face pressure for major remodels and tear downs, it will partner with the Washington County Community Development Agency (CDA) to evaluate and consider how it may protect some of its affordable housing stock. The City does not forecast a need to partner with a community land trust or other housing-related organizations and initiatives during this planning period. Since the median home price in Birchwood Village already exceeds that of the region and the 7-County metropolitan area, it is already becoming more difficult for entry-level and first-time homebuyers to find a home in the community. This challenge is reflected in the City’s 2040 population projections, which identify a decreasing population while the number of households remains constant. This is likely due to the aging of the City’s residents, and lack of opportunity for younger families to move into the community. Over this planning period, the City will strive to assign a task force to identify what ways, if any, the City can ensure the long-term sustainability of the housing stock and community overall. The goal is to complete this report in five to eight (5-8) years.

Housing Implementation Program

The housing implementation program for Birchwood Village will seek to support the City in succeeding with its housing goals. There is little space for any new development, so it is a priority that the City maintains the prevailing homes. The following table outlines a variety of resources and tools the City can use to assist in meeting housing needs.

Table 3-5: Implementation Tools

| Housing Goal | Tool / Resource / Strategy | Description |
|--|--|---|
| Maintain and support the City’s current level of housing affordability. | Washington County Community Development Agency (CDA) | Given the limited staff of Birchwood Village, regularly coordinate with the Washington County CDA to best align their resources with the City’s housing needs and goals. The CDA has capacity, funding resources, and expertise to assist smaller communities and individuals with their housing needs (ex. Home Improvement Loan Program and the Start Up Loan program). |
| | Referrals | Review and update reference procedure and training for applicable staff, including a plan to maintain our ability to refer our residents to any applicable housing programs outside the scope of our local services. |
| | Foreclosure Prevention | Work with the Washington County CDA and other agencies on foreclosure prevention strategies |
| Maintain its single-family detached housing density. | Zoning and Subdivision Ordinances | Review zoning and subdivision ordinances to identify any regulations that inhibit the housing priorities in this document. |
| Maintain and enhance the exiting housing stock and neighborhoods to promote the long-term sustainability of the community. | <ul style="list-style-type: none"> - Home ownership rehabilitation, home improvement, and energy-efficient local programs. - Housing rehabilitation programs funded regionally. - Community Clean-Up Days | Work with agencies, including banks, Washington County CDA, etc., to help support resident’s efforts to maintain and repair homes. |

CHAPTER 4: TRANSPORTATION

Introduction

The purpose of the Transportation chapter is to guide development, maintenance, and improvement of Birchwood Village's transportation network. This chapter addresses the City's existing and planned transportation system based on existing and future land use patterns.

The City's transportation network consists primarily of roadways and trails, but given the City's regional context, also considers adjacent transit and airports that serve the community's residents. These systems work in harmony to move people within and through the City connecting residents to local and regional destinations.

The following sections address each component of the City's transportation system and plans for potential system improvements, maintenance and management, utilizing the existing and planned land uses. Because Birchwood Village is completely residential, the City's transportation system is critical to maintain and plan for because residents rely on the system to provide access to jobs, services, shopping, and other amenities that are not contained within the community. The information contained in this Chapter not only addresses system components that are fully contained within the City but also describes regional transportation components that provide access and services to Birchwood Village's residents.

Roadways

EXISTING AND PLANNED ROADS

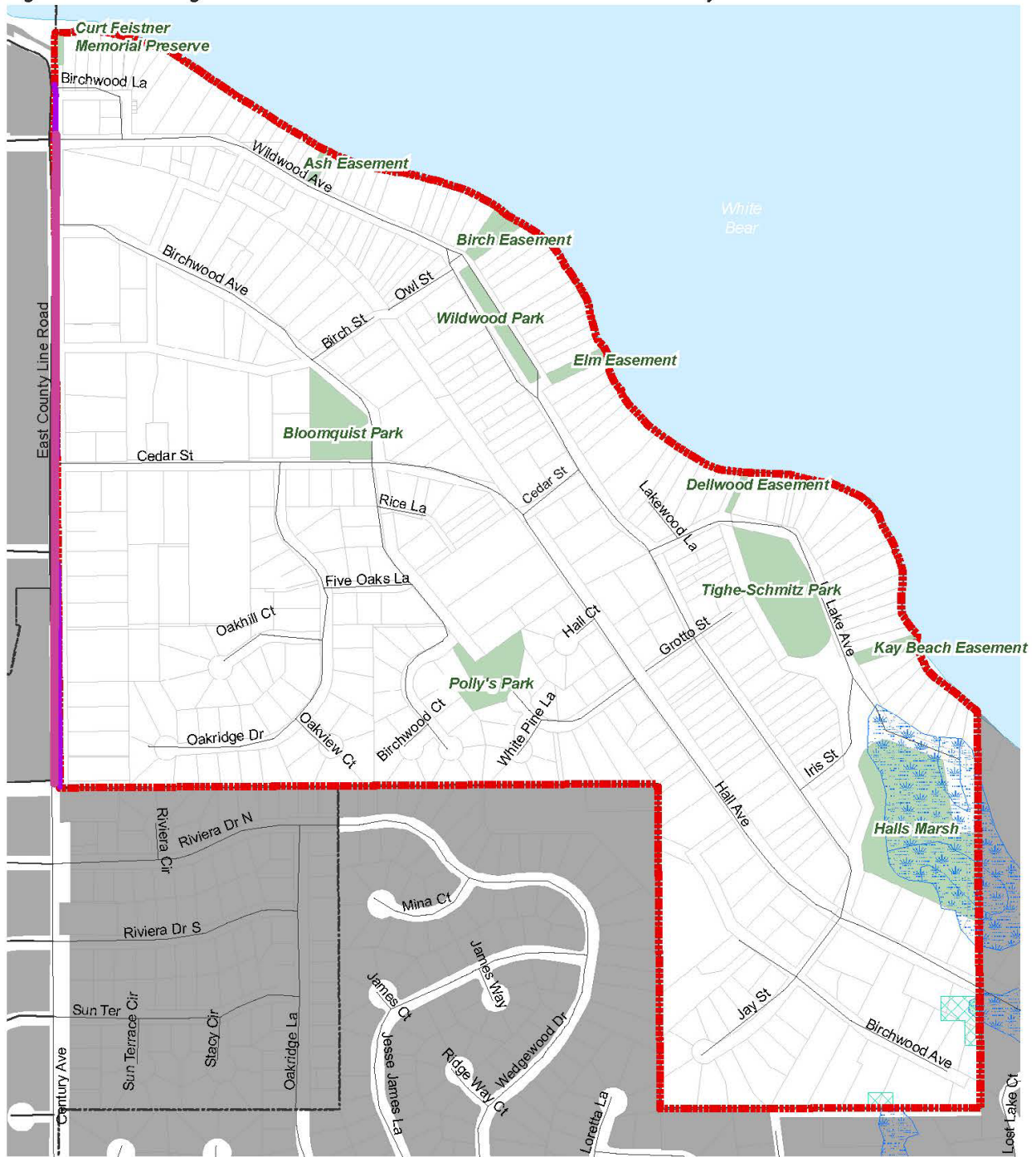
Residents of the City of Birchwood Village rely entirely on the local and regional roadways to travel to adjacent job centers, services, and retail locations. Internal to the City, all roadways are local roads providing access to residences, open spaces, and parks. There are no streets within the City that are under State or County jurisdiction, and all local roadways are managed and maintained by the City. The City of Birchwood Village manages 4.2 miles of bituminous surfaced streets and one gravel roadway (Grotto Street) located off of Wildwood Avenue. Connecting the City to the region is East County Line Road located along the west border of Birchwood Village, which is jointly owned by Washington County and Ramsey County. There are several areas with dedicated street rights-of-way that have not been improved and function today mostly as open space/trail easement areas. These areas are known as Birch, Ash, Elm, Dellwood, and Park Avenues and Jay and Highwood Streets.

As stated within the Land Use chapter, the City of Birchwood Village's future land use plan is consistent with the existing land use plan and no significant changes are proposed. Since no redevelopment areas or significant development are contemplated within the City, there are no new roadways or planned functional classification changes within the City during this planning period. As shown on Figure 4-1, the Existing and Planned Functional Classification of Roadways is planned to stay the same between now and 2040.

FUNCTIONAL CLASSIFICATION DEFINITIONS

The Metropolitan Council, in coordination with County and State agencies, has established a functional classification system for roadways serving the Twin Cities Metropolitan Area. This system establishes a hierarchy of roads to match road function with capacity and purpose. The functional classification system for roadways is broken down into four

Figure 4-1. Existing and Planned Functional Classification of Roadways



Functional Classification of Roadways

- Local/City Roads
- Arterial/Collector Road



DRAFT

Source: Metropolitan Council, MnDNR, Birchwood Village, Washington County

Rev. Date: 4.1.2019
Date: 9.20.2017
Prepared by: SHC, LLC

categories: principle arterials, minor arterials, collectors and local roadways. There are only two functional classifications of roadways in the City: Minor Arterials and Local Roadways. The following definitions are provided for the two classifications affecting the community:

Minor Arterials –

The minor arterial system supplements the principal arterial system and provides connections to the principal arterial system. Minor arterials also support access to major traffic generators, including regional job concentrations and freight terminals, and between rural centers within and just outside the region. Minor arterials should serve medium-to-short trips, including arterial bus rapid transit, limited-stop bus, and local bus service. In the urban service area, the emphasis of minor arterials is on supplementing principal arterial mobility as opposed to providing direct access to land, and only concentrations of commercial, industrial, or residential land uses should have direct access to them. Minor arterials should connect to principal arterials, other minor arterials and collectors. Connections to some local streets are acceptable. Minor arterials are designed to carry higher volumes of general traffic than other local roads and these design characteristics often create a barrier for bicycle and pedestrian travel. Priority should be placed on addressing these barriers in areas with pedestrian traffic, such as within regional job concentrations, within local centers, and along major transit routes. Minor arterials are generally under MN DOT or county jurisdiction. East County Line Road falls within this classification. It is denoted as Other Arterial by the Metropolitan Council.

Local/City Roads –

Local roads connect blocks and land parcels, and the primary emphasis is on land access. In most cases, local roads connect to other local roads and collectors. In some cases, they connect to minor arterials. Local roads serve short trips at low speeds. Local roads serve local travel for pedestrians and bicyclists and may double as bike links in some locations. Transit is occasionally a consideration for local roads, depending on the surrounding land uses. All streets except for East County Line Road within Birchwood Village fall under this classification.

Transportation Analysis Zones

To support transportation planning efforts in the region, the Metropolitan Council requires communities to identify their projected population, households and employment by decade for each Transportation Analysis Zone (TAZ) located within their community. The City of Birchwood Village includes only one TAZ, which is projected to remain relatively consistent over each decade since no significant growth or redevelopment is projected. Table 4-1 identifies the City’s TAZ forecasts by decade through 2040.

Table 4-1: Transportation Analysis Zone Forecasts

| TAZ 1146 | 2020 | 2030 | 2040 |
|------------|------|------|------|
| Population | 850 | 830 | 800 |
| Households | 360 | 360 | 360 |
| Employment | 30 | 30 | 30 |

Source: 2015 Birchwood Village Metropolitan Council System Statement

ROADWAY CONSIDERATIONS THROUGH 2040

Birchwood Village’s street infrastructure is the largest asset and liability in the City’s public works system and requires ongoing and routine maintenance. The City’s streets consist of two to three inches of bituminous surfacing over four to five inches of aggregate base. Bituminous overlays of the streets have been completed in the past, and as a result

the bituminous surface may be thicker than three inches on some roadways or in some areas. The City has relatively low traffic volumes, and there are no commercial or business uses in the community; which helps minimize wear and tear on the roadways. The planned land uses are expected to remain consistent with the existing land uses, and therefore traffic volumes are anticipated to remain the same or be reduced as the City's population is projected to shift slightly lower during this planning period.

In recent years, the City has undertaken a comprehensive maintenance plan of crack filling and seal coating all its roadways. Experts have opined that under normal use this process will extend the pavement another twenty years before a subsequent mill and overlay is necessary. To continue this maintenance program, the City has recently adopted a Capital Improvement fund that is funded annually through its general levy. To maintain and manage the City's roadways, the City plans for and provides adequate budget during its annual budget process.

It is recommended that the streets continue to be crack sealed every three to five years, or as recommended by the City's consultants. Crack-filling and pot hole repairs are done on a yearly basis or as needed. These necessary repairs could be a result of severe weather conditions and utility repairs. Because the City's population is less than 5,000 there is no state aid available to help manage and maintain any local roadways, and budgeting and costs must be absorbed by the City and its residents. The City will continue to monitor and plan for needed improvements to its roadways through this planning period.

Highway surface improvement projects taking place from 2019-2024 in the vicinity of Birchwood Village have been identified by the Metropolitan Council in the Birchwood Village 2015 Systems Statement. The only identified pavement project is the resurfacing of East County Line Road, which was done in the summer of 2020.

Bicycling & Walking

As the region continues to grow it will become increasingly more important for residents to have transportation mode choices to help reduce overall reliance on vehicles. Though Birchwood Village is not easily accessible to mass transit services, the City is perfectly positioned to improve and create opportunities for residents to be connected to regional bike and trail infrastructure.

BICYCLING

The City was the first White Bear Lake area community to implement signage of the Lake Links regional bicycle route. In addition, the City adopted traffic calming on Hall Ave/Cedar St by narrowing driving lanes to 10 feet, adding regular stops signs, and painting lines for wider shoulders for bicyclists and pedestrians. Additional traffic calming measures include reducing speed to 25 MPH on Hall Ave/Cedar St and installing pedestrian markers at many of the intersections. Most residents believe that the existing roads are multi-purpose and can safely accommodate bikers, walkers, and motor vehicles.

To supplement the use of the local roadways for bicyclists, the City will contemplate the direction of the Metropolitan Council's desire for the City to explore how it can plan for a more specific connection into the planned Regional Bicycle Transportation Network (RBTN). The Metropolitan Council has identified a RBTN Tier 1 search corridor in the City along Wildwood Avenue (see Figure 4-2). According to the Metropolitan Council's 2040 Regional Parks Policy Plan, a Tier 1 (high priority) network is identified where bicycle travel is greatest, population and job densities are highest, and where there were the most opportunities to connect regional job concentrations and activity centers with population and the regional transit system. The RBTN alignment passes through Birchwood Village going east-west. Given this aligned corridor, Birchwood Village will seek to plan for the implementation of bicycle supporting

facilities through 2040 to establish a connection to the RBTN. Improved bicycle infrastructure was identified by residents as an important consideration in the 2017 Park Survey, and it is likely that planning for a more connected bikeway into the region will be supported by area residents.

Figure 4-2. Regional Bicycle Transportation Network Tier 1 Search Corridor



RBTN Corridors

- Tier 1



DRAFT

Source: Metropolitan Council,
Birchwood Village, Washington
County

Rev: 4.1.2019
Date: 9.20.2017
Prepared by: SHC, LLC

SIDEWALKS & PEDESTRIAN WAYS

There are no sidewalks within Birchwood Village. Limited discussion has been heard regarding sidewalk improvements along East County Line Road and Birchwood, Hall and Cedar Avenues. East County Line Road is not under the jurisdiction of the City and the road drainage includes a series of ditches and culverts that would make construction of trail or sidewalk improvement difficult in this area. It may be possible to construct storm sewers to accommodate runoff, but any improvements would need significant coordination with Washington and Ramsey Counties. There has yet to be strong enough support for sidewalks anywhere in Birchwood Village.

Pedestrians also utilize a narrow bituminous surface between Birch Street and Owl Street as a path. The City maintains Ash, Polly's, Bloomquist, and Grotto walkways as paths and created a new path in 2019 called Jay path. Generally, residents walk on local roadways which are seen as multi-purpose and shared facilities for pedestrians, bicyclists and motor vehicles. The 2017 Parks Survey identified the development of new pathways as an important addition to the City.

Mass Transit

Birchwood Village's Transit Market Area is Market Area III as designated by the Metropolitan Council. This Market Area is described having moderate density but tends to have a less traditional street grid that can limit the effectiveness of transit. Transit service in this area is primarily offered by Metro Transit with a commuter express bus service (Route 270) and one local bus route (Route 219) running along the west border of Birchwood Village (Highway 120) and along County Road E in White Bear Lake, south of Birchwood Village.

There is currently no fixed-route local service operators within Birchwood Village, and public dial-a-ride services fulfill needs for basic local transit needs. Transit Link is the Twin Cities' shared dial-a-ride service for the general public and is available where regular fixed-route service is more than a ½ mile away (¼ mile in the winter). Metro Mobility is another service but is limited to certified riders who are unable to use regular fixed-route buses due to disability or health concern.

There are no park-and-rides or other transit facilities located in the City. The closest park-and-ride is at the Maplewood Mall, 4.5 miles away.

Aviation

The nearest major commercial airport that serves Birchwood Village residents is the Minneapolis-St. Paul International Airport that is located approximately 22-miles southwest of the City. The nearest airport is the Lake Elmo airport which is a general aviation facility operated by the Metropolitan Airports Commission.

Several private light planes operate off the surface of White Bear Lake year-round. The lake is adequate in size for light activity and MN DOT Aeronautics has designated it as appropriate for seaplane operations. The City acknowledges this designation and accepts present seaplane activity, but would object to large scale operations.

There are no existing height barriers for seaplane operation within the City. Municipal Code restricts the height of structures at 35 feet per City Zoning Code. Any variance which would result in a structure having a height of more than 200 feet would be considered an aviation hazard and require approval of MN DOT and the notification of the FAA. The City will use proper notice and protocol to the FAA for any proposed construction or variance which could affect navigable airspace.

Freight

There are no railways, barge facilities and truck or intermodal freight terminals within Birchwood Village. Since there is no commercial development allowed within the City, there are no nodes or areas that generate freight movement.

Chapter 5: Parks, Trails, Open Space & Natural Resources

Introduction

The City's existing parks, trails, open space and natural resources system is an important part of Birchwood Village's quaint small-village character. Tree canopied streets, and private wooded lots with rolling topography make the community feel like the small resort town of yesteryear, while active park areas provide residents with opportunities to meet and gather. The parks, trails, open space and natural resource system are an important part of the City's past and are planned to be an important asset of its future.

The following sections identify and describe the City's existing system and establishes a plan for the future of the City's Parks, Trails, Open Space and Natural Resources (PTOSN) System. Finally, this chapter introduces the concept of a green network that incorporates all of these elements and considers the resiliency and long-term sustainability of Birchwood Village for this planning period.

PTOSN Goals & Objectives

The City's parks, trails, open space, and natural resources system is a defining characteristic of Birchwood Village. Though the City is relatively small, a significant proportion of the City's land uses are dedicated for park and open space uses; which are further enhanced by the presence of White Bear Lake and all the natural areas within rights-of-way and private lots in the community today. When all of these areas are considered collectively, the organized park areas and natural areas further define the small-town village atmosphere of the community.

The City issued a park survey in 2017 to solicit feedback from residents to provide direction for the parks and open spaces moving forward. Many of Birchwood Village's residents responded to the survey, and their feedback was used to help define and establish the following goals and objectives for the parks and open space system through this planning period. Here are some of the areas noted by residents (in no particular order):

1. Preserve Natural Spaces
2. Maintain and improve the City's existing parks and open space facilities to ensure the health, safety and general wellbeing of Birchwood Village residents.
3. Provide park and open space facilities that serve all age groups and meet programming needs of Birchwood Village's residents. The City will take a balanced approach to programming and develop a system that supports all age cohorts in the community.
4. Create and develop a system of walkways within the City that connect residents to Birchwood Village's parks and open spaces providing safe alternate transportation mode choices and reducing resident's reliance on vehicles to access the system.
5. Upgrade and maintain the lake easements, as necessary, to meet the needs and desires of residents.
6. Improve the overall maintenance of parks and public facilities.
7. Integrate and align the City's equipment and resources to support and contribute to other local communities' and youth organizations' parks, trails, and open space systems.

There are many ways that the City can accomplish the goals and objectives as identified above. The City's Parks & Natural Resources Committee took the first step toward the goal by developing a Parks Improvement Plan that intends

to address what residents indicated in their response to the survey: desire for the system to be enhanced and better maintained as an asset of the community into the future. To support this value, maintenance, improvements and enhancements should be well planned to protect the system's long-term sustainability as a key characteristic of the community through this planning period.

Existing Parks, Trails, Open Space and Natural Resource System

As indicated in previous sections, and within Chapter 2: Land Use, the City is primarily developed with single-family residential uses with interspersed protected park, open space and natural resource areas. To better understand how the City should plan a coordinated Parks, Open Space and Natural Areas system, it is important to first understand the existing condition and location of each component of the system and prioritize maintenance of these areas.

There is a total of 13.8 acres of park and public open space land within the boundaries of Birchwood Village (see Figure 5-1). The City's park system includes four park areas with passive and active recreational uses; six lake easements that provide access to White Bear Lake, and several undeveloped areas (easements and rights-of-way) that have not been designated with a specific use. All City residents are within one-half mile of one, or more, of the City's parks or open space areas. In addition to the protected park and open space areas, the significant natural resources in the community include White Bear Lake and Halls Marsh, the wetland area just south of Tighe-Schmitz Park. Outside of publicly protected natural resources, the City's private lot areas and easement areas include extensive tree cover and rolling topography which all contribute to the City's stormwater and natural resources system. The following sections describe Birchwood Village's existing parks, open space and natural resource areas in the community.

CITY PARKS & OPEN SPACES

Bloomquist Park

Classification: Neighborhood Park

Size: 1.50 Acres

Address: 210 Birchwood Avenue

Located at the intersection of Cedar Street and Birchwood Avenue, is a neighborhood park with a double tennis court, picnic tables and benches. New playground equipment was installed in 1998. The park is heavily used by residents, and current programming matches the community's demands.

Wildwood Park

Classification: Open Space

Size: 0.60 Acres

Address: 220 Wildwood Avenue

This park/open space area is located within the right-of-way of Wildwood Avenue and is close to the midpoint of Wildwood Avenue within the City. The boulevard area is a wide-open grassy area which provides passive recreational opportunities to residents and is used for community gatherings such as its Fourth of July celebration. The open space area is connected to two of the easements to White Bear Lake providing further connections within the City's open space network.

Figure 5-1. Parks, Open Space & Natural Resources



Parks, Open Space, Natural Resources

- ParksOpenSpace
- National Wetlands Inventory (NWI)
- Regionally Significant Natural Area (MLCCS Derived)



DRAFT

Source: Metropolitan Council, MnDNR, Birchwood Village, Washington County

Rev. Date: 4.1.2019
 Date: 9.20.2017
 Prepared by: SHC, LLC

Tighe-Schmitz Park**Classification:** Neighborhood Park**Size:** 2.50 Acres**Address:** 410 Lake Avenue

The Tighe-Schmitz Park is located in the southeastern quadrant of the City and is the City's largest park area. The park provides both passive and active recreational opportunities to residents and is the most popular park in the City's system. The recent results from the 2017 community survey indicated high usage of this park. In addition to passive park uses, the park also includes a large active sport area with a hockey rink, open skating rink, baseball field, and practice areas for football and soccer. The multi-purpose hockey rink (completed in 1997) provides for year-round use including in-line skating, basketball and pickle ball in the off-season. Adjacent to the skating rinks is a warming house. Children's play equipment (installed in 1996), and a picnic shelter with a bbq grill complete the park's current amenities. Adjacent to the picnic area, a rain garden was installed.

Polly's Park**Classification:** Open Space & Stormwater Management**Size:** 1.3 Acres**Address:** 12 White Pine Lane

The Polly's Park area provides passive recreational uses and stormwater management. This is an example of an area that serves dual purpose, providing recreation opportunities while also allowing for surface water management including localized groundwater recharge contributing to the City's green infrastructure and network.

White Bear Lake Easements (Multiple)**Classification:** Open Space**Size:** 1.2 Acres (total)**Addresses:**

- **Curt Feistner Memorial Preserve:** 4110B East County Line Road;
- **Ash Beach:** 143B Wildwood Avenue;
- **Birch Beach:** 199B Wildwood Avenue;
- **Elm Beach:** 285B Wildwood Avenue;
- **Dellwood Beach:** 407B Lake Avenue;
- **Kay Beach:** 495B Lake Avenue

The City owns and manages six lake easements that provide residents access to White Bear Lake for swimming, boating, fishing, and winter activities. The easements are evenly spaced along Wildwood and Lake Avenues and are generally between 40 and 55-feet in width and are within a short walking distance of all of Birchwood Village residents. The easements are known as: Kay, Dellwood, Elm, Birch and Ash Beaches and Curt Feistner Memorial Preserve. The City owns and maintains one dock at Kay Beach and contracts dock management services for the remaining five easements to a private organization that owns and maintains their docks for public use. The City bought a new dock for Kay Beach; which has been warmly received by residents.

The City currently provides for storage of non-motorized boats (paddle boards, canoes, kayaks) at each of the easements except Curt Feistner Memorial Preserve. Residents continue to request more space for this type of storage.

As a result, new storage racks have been added and continue to be added as necessary. The City monitors the spaces by charging a small fee for a permit. The program remains popular.

Halls Marsh

Classification: Open Space & Stormwater Management

Size: 6.6 Acres

Address: not assigned

This open space is a dedicated nature preserve and is currently unimproved, except for Jay Path, which skirts the Marsh on the south water's edge. There are no other organized/programmed uses and the area is generally open space and provides ponding and stormwater management.

Birchwood Village City Hall

Classification: Open Space & Stormwater Management

Size: 0.79 Acres

Address: 207 Birchwood Avenue

Located adjacent to Bloomquist Park, the Birchwood Village City Hall serves as a gathering and meeting place for various Birchwood Village organizations as well as for official business meetings. The Village currently uses the land directly north of the Village Hall for open space and stormwater management.

City Trails

There are several existing City trails that are heavily used by area residents. Residents also rely on existing roadways for walking, running, and biking. While roadways are viewed as relatively safe, their narrowness coupled with topography can cause safety concerns when sharing the roadways with vehicle traffic. Figure 5-2 illustrates locations of existing trails and where new trails have been considered.

Regional and State Parks & Trails

The City is within the search area for new regional bike trails according to the Metropolitan Council. There are no designated regional or state trails in the City. Recently, efforts to establish the Lake Links Trail will incorporate streets within Birchwood Village as part of a designated trail route around White Bear Lake, connecting Birchwood Village residents with local, regional and state parks and trails in adjacent communities (see Figure 5-3).

Adjacent Communities Parks & Open Space

As a small community, it is not possible for residents' parks and open space needs to be fully met within the Birchwood Village borders, and therefore, the parks amenities of neighboring communities help complete the system. Birchwood Village residents are blessed with access to the recreational facilities in nearby communities such as Mahtomedi, White Bear Lake, White Bear Township and the surrounding region. Some of the closest resources include Wildwood Park and Wedgewood Park located off of County Road E in Mahtomedi - both are just to the south and east of Birchwood Village. Nearby to the west is a well-developed playground at the former Bellaire School that includes a softball field. Additionally, the City of White Bear Lake has play equipment at the corner of County F and Bellaire, and White Bear Township's Bellaire Beach and picnic area is located on White Bear Lake one-half mile west of Birchwood Village. Because of Birchwood Village's size, White Bear Lake's and Mahtomedi's park programming, community education and recreational associations also serve Birchwood Village residents.

Figure 5-2. Parks & Trails



Parks & Trails

- Parks/Open Space
- National Wetlands Inventory (NWI)
- Regionally Significant Natural Area (MLCCS Derived)
- Existing Trail
- Potential Trail

DRAFT



Source: Metropolitan Council, MnDNR, Birchwood Village, Washington County

Rev. Date: 4.1.2019
Date: 9.20.2017
Prepared by: SHC, LLC

Existing Natural Resources

The City parks and open spaces are enhanced and supported by the natural resources that further complete the system. This concept of combining all parks, open space and natural resources, to be considered and managed as one system, is often referred to as a “Green Network.” The concept is particularly fitting in Birchwood Village given its extensive natural resources further described here.

Topography and Stormwater

Birchwood Village has rolling topography which slopes gradually toward White Bear Lake. Since development of the community happened in the late 1800s and early 1900s, much of the natural topography was protected as vacation homes and cottages were sited to capitalize on existing topography and views. As a result of this development pattern, the City’s terrain is hilly, with rolling hills of 12% - 15%, up to 24% in some areas. Due to the slope, it is imperative that natural vegetation and ground cover is maintained to prevent erosion which is a significant consideration for land in excess of 12% slope. Maintaining proper vegetation and ground cover is also important to protect lake quality since White Bear Lake is the lowest elevation of the community at approximately 924-feet. The topography of the community rises to a height of just over 1,010 feet at the west and south borders of Birchwood Village. Runoff flows to the Lake if not properly maintained and managed.

Tighe-Schmitz Park is one of the lowest points inland from White Bear Lake making it a natural stormwater retention area during rain events. Before it was filled-in during the 1950’s, it was described as a bog, wetland and swamp. Currently the City considers the Park as part of its stormwater management system and has designed and programmed facilities that are conducive to its function as a stormwater holding area during high-volume rain events. To assist with drainage and surface water runoff the City has constructed a permanent rain garden that helps clean and filter water and contributes to localized groundwater recharge.

The City has constructed a second rain garden at Birch Beach to serve as a natural stormwater management feature. The Birch Beach rain garden functions to help slow and clean stormwater runoff from local roadways prior to being discharged into White Bear Lake. Both rain gardens require regular, programmed maintenance and management to function properly as stormwater features.

Soils & Vegetation

Birchwood Village’s native soils are predominantly sand of various classifications. Close to the lake, the Kingsly fine sandy loam predominates, which is considered to have a slight degree of limitation for building and can be prone to erosion on steeper slopes. The outcrop of rock that goes through this area is called the Birchwood Outcrop. The south-central portion of the City contains Pemroy loamy fine sand. This soil type presents a severe erosion hazard on slopes greater than 12% that are found in this area of the City. This soil also tends to be rather impermeable, which makes localized groundwater recharge more challenging. Some ledge rock is encountered at scattered locations throughout the City. Detailed information on surface soil types is available from the Washington County Soil and Water Conservation District.

Aquatic vegetation is found in the marsh areas, and the land areas that were once farmland in the southwest portion of the community are heavily vegetated with a variety of trees that were primarily planted as new neighborhoods were developed. Overall, Birchwood Village is extensively wooded with many large Oaks and Maples throughout the community.

Birchwood Village officials have expressed concern of the dominant presence of Oak, Elm, and Ash groups of trees because of the prevalence of Oak Wilt, Dutch Elm Disease, Bur Oak Blight and the threat of Emerald Ash Borer. These problems are compounded by the lack of options to prevent trees from becoming diseased. The loss of trees and tree limbs due to inclement weather and aging is becoming more prevalent. Losing these old growth large trees, if not replaced, will have a significant visual impact on Birchwood Village in the future. The City has since adopted a tree preservation ordinance to ensure that significant trees are preserved or any loss of trees are mitigated by a replacement plan. Additionally, the City will strive to replace lost trees from public lands with a diverse tree forest and encourage the same practice by residents on private lands.

In addition to the aging tree stock, the City has also experienced the increase of invasive species in the community - most notably the presence of buckthorn. Due to the severity of invasion, Washington County Sentence to Service have been used to remove large areas of buckthorn. While Sentence to Service is free, the City must allocate resources for disposal of the wood. From 2013 to 2019, volunteers have also cut down buckthorn. Other invasive species in the community include wild mustard and purple-loosestrife. Purple-loosestrife now predominates native species in Halls Marsh. Yellow iris recently appeared in Halls Marsh as well. There is no easy answer to eradicating these plants, and currently the City's best solution is to continue to work with volunteers and organizations on removal of these invasive plants.

Wildlife is abundant in Birchwood Village, and the current population of deer in the area is beginning to pose a threat to the native plants and trees. Unified management of the deer population with neighboring communities will need to be considered for effective natural resource protection.

In 2019 the City adopted Resolution 2019-22 endorsing pollinator protection policies and practices to promote a healthy environment. The Resolution commits the City and its contractors to purchase and use only pesticides, plants, and seeds that are free from neonicotinoids and to use pollinator-friendly methods of weed and pest control on any City owned or operated land. The Resolution also shows the City's support of efforts taken by community members to create and maintain pollinator-friendly habitat and practices.

Lakes and Wetlands

White Bear Lake itself is probably the community's most valuable natural resource, providing recreational activities both summer and winter, and acting as an effective moderator of ambient temperatures. The sloping terrain toward the lake provides many homes with sweeping vistas of open space. The City and the citizens of Birchwood Village should be cognizant of this resource when applying chemicals. Additionally, the City has identified tools and strategies within its Local Water Resource Management Plan (LWRMP) contained within the Comprehensive Plan that support the Rice Creek Watershed District and their efforts to protect and improve the Lake. (See Chapter 6.)

The other significant surface water feature in the community is the wetland area known as Halls Marsh. The wetland area serves an important function in the City's surface water management and is also a place with native vegetation and open space for wildlife.

Planned Parks, Trails, Open Space and Natural Areas

The City's existing parks, trails, open spaces and natural areas provide the foundation for future planning. As noted in previous sections, and identified by residents within the survey, the existing system is an important and character-

defining element of the community. As such, it is important to properly maintain and manage the existing system, and to identify opportunities to enhance and contribute to a more complete future system.

Focus on Trails (Pedestrian, Bikeways, and Multi-Purpose)

Many area residents have identified the desire to expand the pedestrian and bikeway network in the community and across its borders, and to make the trail network safer. The existing trails in Birchwood Village are not well connected to the region, and residents are supportive of establishing a safe route around the lake for pedestrians, bikers, and joggers. Previously the communities around White Bear Lake discussed establishing a bike and pedestrian trail around the lake connecting all communities. This concept is coming closer to fruition as the State of Minnesota has committed hundreds of thousands of dollars for planning and implementation of the Lake Links Trail. See Figure 5-3. Lake Links Trail.

At the local level, residents are conflicted about how to balance the desire for improved trail connections for pedestrians and bicyclists while still protecting existing neighborhood patterns and character. There is some fear that any change will be less desirable than the current situation. Even though the discussion is difficult, it does not mean Birchwood Village should ignore opportunities to provide a more complete network as desired by residents. Accordingly, Birchwood Village intends to plan for a more complete system while giving proper consideration to those that will be most affected or impacted by potential improvements.

LOCAL TRAILS AND UNIMPROVED EASEMENT AREAS

One of the City's priorities is the preservation of the natural charm of its existing neighborhoods and the privacy of its citizens. This must be considered in terms of the collective community, and how individual property owners' desires for privacy can be balanced with opportunities to create a more complete trail system. The residents that have the potential to be most negatively affected by improvements within these unimproved right-of-way areas are those that abut easements/rights-of-way and have enjoyed these publicly owned properties as essentially an extension to their private lots. While this is understandable, it must also be noted that these areas were dedicated for public use as road rights-of-way, and that trails are a far less intense use than what was originally contemplated. Since these areas were set aside for public use, the City intends to plan for, and contemplate how the rights-of-way can serve as trail connections.

Birchwood Village is committed to improving trail access throughout the community because it benefits all of its residents. The City is equally committed to working with affected property owners to identify proper mitigation to help alleviate some of the concerns associated with greater trail access throughout the community. The planning process will consider how a trail could be located within the right-of-way area but will also identify and work with adjacent property owners to identify what types of mitigation may be available to protect their privacy even with a public trail located nearby. For example, in areas where there is concern that trail users may venture off the trail, vegetation and landscaping including trees may help serve as a guide to keep users from venturing into private property. Or, for property owners concerned about trail users being able to see into adjacent homes or lots, there may be opportunities to plant more mature conifers along the trail corridor.

BIKEWAYS

The Metropolitan Council has identified the City within one of the Regional Bicycle Transportation Network's (RBTN) future corridors. It is designated as a Tier 1 corridor, which according to the Metropolitan Council's 2040 Regional Parks Policy Plan a Tier 1 (high priority) network is identified where bicycle travel is greatest, population

and job densities are highest, and where there were the most opportunities to connect regional job concentrations and activity centers with population center and the regional transit system. Given these criteria, Birchwood Village is required to plan for the implementation of bicycle supporting facilities through 2040. As shown in Chapter 4, Figure 4-2, the entire City is within the Corridor. Based on the City’s infrastructure, the most likely location for an on-road bike lane is along Wildwood, Lake and Hall Avenues.

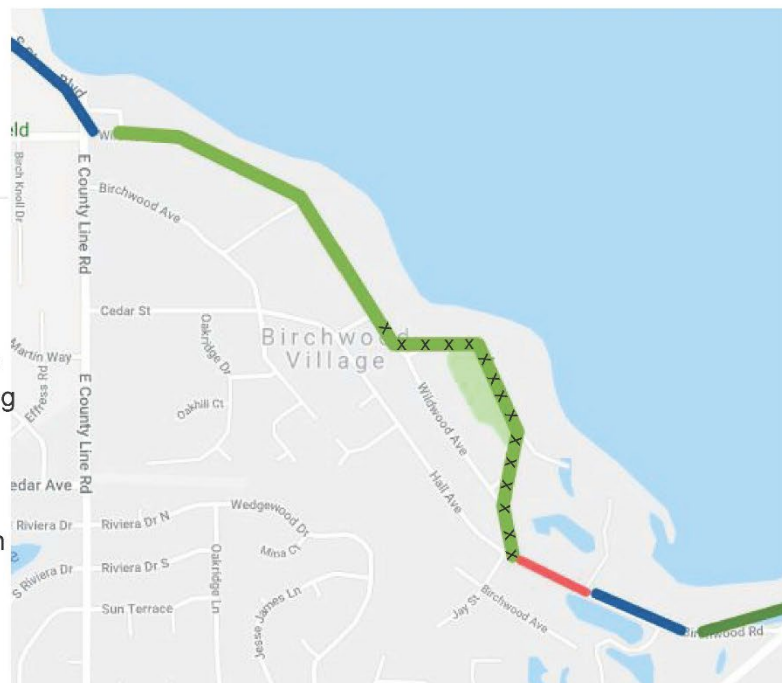
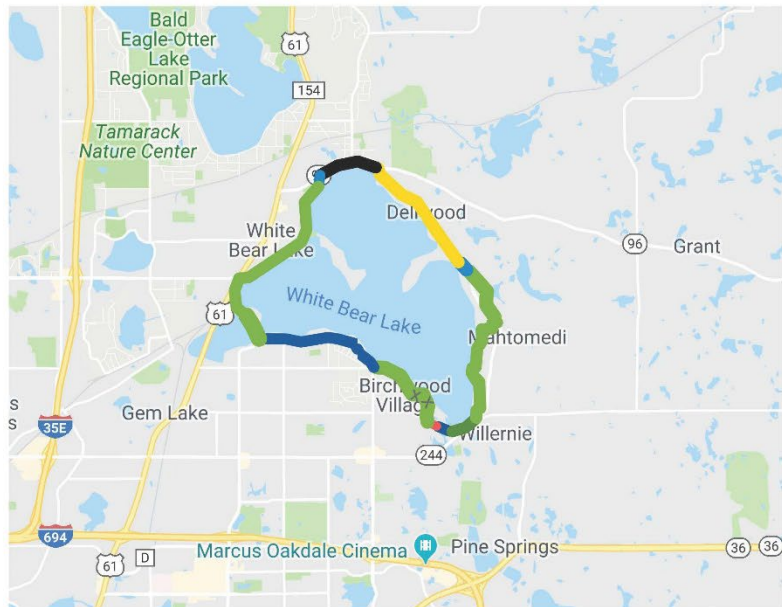
Figure 5-3. Lake Links Trail

LAKE LINKS TRAIL

Lake Links trail segments

- Lions Park to South Shore
- South Shore Boulevard
- Lake Avenue (Mark Sather Trail)
- Ramsey County beach trail
- State Highway 96
- State Highway 244
- Hawkins / Briarwood
- Briarwood Connection to Streetcar
- Mahtomedi Lakeside Streets 2
- Mahtomedi Lakeside Streets 1
- Birchwood Village
- Birchwood Road
- Wildwood Beach Road
- Neptune to Maple
- Birchwood Road

- GREEN** = complete
- BLUE** = funded, final design in progress
- YELLOW** = prelim. engineering in progress
- RED** = no funding
- BLACK** = no funding
- XXXX** = pending modification



source: Lake Links Assoc., Feb. 2019. Local revisions added.

Reinforcing this alignment, Washington County just recently identified a corridor through Birchwood Village for bicycle traffic that is part of the Lake Links Trail (see Figure 5-3). The Lake Links Trail aims to create a trail loop around White Bear Lake and Silver Lake, an extension of the Bruce Vento Trail from Maplewood to the Hugo trail system, and trail links between each of these and to the Gateway Trail and Stillwater trail system. The Birchwood Village Trail Corridor totals 1 mile and currently follows Wildwood, Lake and Hall Avenues through the City. Although Figure 5-3 shows the majority of the route through Birchwood Village as complete and a small section remaining pending funding, the City has adjusted to this route to address safety concerns and is requesting funding from the State Legislature to assist with this improvement.

PAVED AND UNPAVED TRAILS

The City’s vision is that the trail system will provide a more complete system to local residents, and that a variety of trail surfaces will be available, creating a diverse and interesting trail experience for pedestrians and bicyclists.

Planned Acquisitions or Improvements to Parks and Open Space

As a fully developed community, Birchwood Village is not planning for any additional park or open space acquisitions in this planning period – these are required by City Code as part of any new subdivision of land. However, the existing system, including underutilized park/open space land, will continue to be a priority for programming, maintenance and management to ensure the existing parks and open spaces continue to meet the needs of Birchwood Village residents. The following summary of planned considerations for parks and open spaces is provided:

UNDERUTILIZED LAND/PROGRAMMING CONSIDERATIONS

The City owns several small lots/easements that could accommodate other uses. As noted in the existing parks and open space section, some areas within the existing system present opportunities for improvements, such as near City Hall where continued enhancements to the City’s green network and stormwater management system are possible as well as Polly’s Park and areas near existing Tighe-Schmitz Park and Halls Marsh. The City will continue to identify opportunities, even small opportunities, to enhance the City’s system, including its green network, to make a more sustainable community.

MAINTENANCE AND MANAGEMENT OF THE EXISTING SYSTEM

The City expended significant sums of money for the replacement of its tennis court surface and ice rink warming house. The tennis surface now has a durable “Flex court” overlay that has helped reduce players’ joint pain and avoided the expensive cost of a total reconstruction. The ice rink warming house project replaced a deteriorated small shack and was spearheaded by a local contractor who coordinated the volunteer project to create a first class facility without using any tax dollars.

The City has also embarked on a tree replanting program that has enhanced its open spaces and residents demanded and spearheaded the rebuilding of the water control weir at Halls Marsh that restores original water levels and improves storm water quality before it is discharged into White Bear Lake. This was an extremely complicated project that took many years of coordination and required working with the RCWD and neighbors to ensure a positive outcome. Tighe-Schmitz Park also benefited because the groundwater levels were reduced to normal levels.

The City also improved a connector to its walking trails by installing steps and handrail on a steep hill on Grotto Street. These steps now make the connection to the lake and City beaches safer for residents as they walk to these amenities.

Residents requested the City to be more lenient with allowing dogs in public spaces. The City adopted new code which permits dogs at all City beaches, parks and open spaces provided the owner abides by all other provisions of the animal code.

The park infrastructure, such as some paths and playground equipment, had been experiencing deferred maintenance or repairs. As a result of the concerns of the residents expressed in the 2017 survey, the City hired two part-time maintenance workers to weed, mow and remove overgrowth and branches. The work is ongoing, but residents have appreciated the improvements.

Natural Areas and Resiliency

The City's existing rights-of-way, trails, parks and open spaces all work together to form a green network in the community that promotes long-term sustainability and resiliency. This concept is built on the idea of incorporating recreation, natural areas, trails, rights-of-way and open spaces into a connected network that can offer long-term benefits to the community.

While the City is not adopting a formal green network as part of this plan, the City has adopted and incorporated many green network principles evidenced by the extensive parks, open spaces, and natural areas in the community today. In essence, the City is adopting a green network as a way to promote resiliency of Birchwood Village over this planning period. Examples of land uses that the City considers part of the green network include:

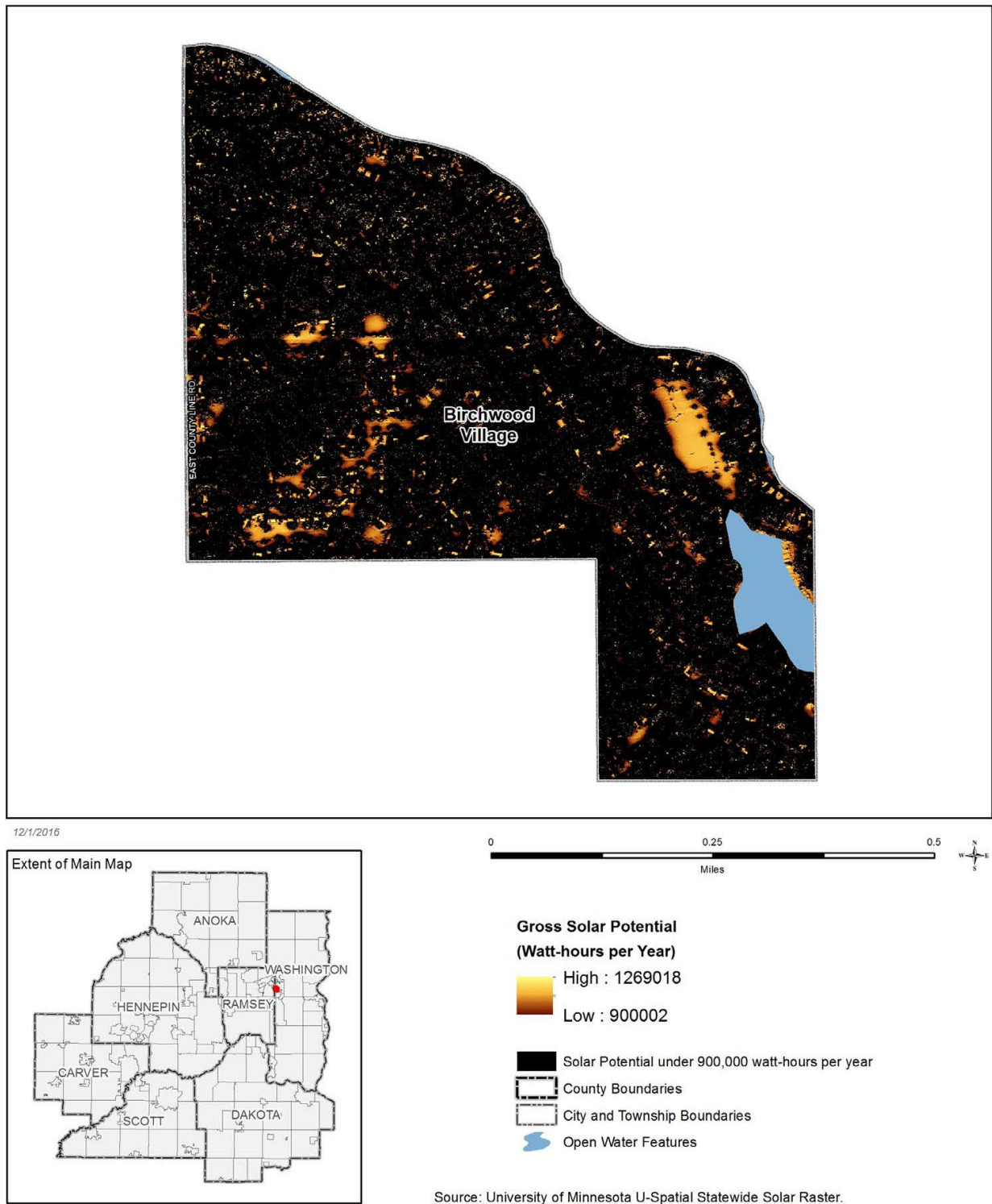
- Active recreational park areas
- Passive recreational park areas and open spaces
- Conservation easements
- Utility easements and road rights-of-way (unpaved shoulders, swales and ditches)
- Storm ponds and retention basins
- Swales
- Wetlands
- Rain gardens
- Porous paving and sustainable stormwater management areas
- Solar gardens/solar panels

The intent is that these land uses and features help to create a green network that is adaptable, and contributes not only to the City's Parks, Trails and Open Space Network but to the sustainability of the community as a whole. Connected spaces will also establish more walkability, bikeability and accessibility within the City. Resiliency can also refer to the health and wellness of residents that, when considered collectively, with the green network, offers the opportunity to provide access to nature, views, wildlife, recreational opportunities, community gathering spaces, greenery and places that reduce stress, and shade canopies that can reduce energy consumption.

SOLAR ENERGY

The City's existing land uses and vegetative patterns make solar access challenging particularly on individual home sites. Insofar as individual homes are shaded by an extensive tree canopy, property owners lack options for alternative energy such as solar. The existing solar access in the City is shown on Figure 5-4, and the associated potential solar

Figure 5-4. Solar Access



generation is identified in Table 5-1. The City has co-opted with a solar garden in the area to ensure that the City’s power consumption includes renewable resources. When technology allows, Birchwood Village residents will be able to access community solar gardens and services on an individual level.

Table 5-1: Gross and Rooftop Solar Resource Calculations

| GROSS POTENTIAL (MWH/YR) | ROOFTOP POTENTIAL (MWH/YR) | GROSS GENERATION POTENTIAL (MWH/YR) ² | ROOFTOP GENERATION POTENTIAL (MWH/YR) ² |
|--------------------------|----------------------------|--|--|
| 90,456 | 15,426 | 9,045 | 1,542 |

CHAPTER 6: WATER RESOURCES

Introduction

This section of the Birchwood Village 2040 Comprehensive Plan serves to outline water resources management in the City for the purpose of conserving, protecting, and maintaining the quality of surface waters, ground water, and natural resources. The City is positioned to follow water management strategies and regulations set forth by the governing watershed district, Rice Creek Watershed District (RCWD). The Metropolitan Surface Water Management Act of 1982 identifies local watershed management organizations or watershed districts as the primary organization to prepare and implement comprehensive surface water management plans for local units of government in the seven-county metro area.

The goals of the Metropolitan Surface Water Management Act are to:

- protect, preserve, and use natural surface and groundwater storage and retention systems;
- minimize public capital expenditures needed to correct flooding and water quality problems;
- identify and plan for means to effectively protect and improve surface and groundwater quality;
- establish more uniform local policies and official controls for surface and groundwater management;
- prevent erosion of soil into surface water systems;
- promote groundwater recharge;
- protect and enhance fish and wildlife habitat and water recreational facilities; and
- secure the other benefits associated with the proper management of surface and groundwater.

(source MN Board of Water and Soil Resources, www.bwsr.mn.us)

This chapter therefore recognizes that the City of Birchwood Village follows and incorporates by reference the policies, standards, and procedures for surface water management required by the RCWD and that meet the provisions of Minnesota Statutes §473.157 and §103B.235, Minnesota Rules 8410.

Organizations with jurisdictional influence for water resource management include Washington County, Rice Creek Watershed District (RCWD), the Metropolitan Council, State of Minnesota Agencies such as the Minnesota Pollution Control Agency (MPCA), the Minnesota Department of Natural Resources (MN DNR), the Minnesota Department of Health (MDH), and the Board of Soil and Water Resources (BWSR), plus Federal Agencies, most notably the Environmental Protection Agency (EPA), and U.S. Army Corps of Engineers, where applicable.

Birchwood Village Local Water Resources Management Plan

Plan Summary

As part of Thrive MSP 2040, the Metropolitan Council adopted a water resources policy plan with policies and strategies aimed to achieve the following goal for water management: “To protect, conserve, and utilize the region’s groundwater and surface water in ways that protect public health, support economic growth and development, maintain

habitat and ecosystem health, and provide for recreational opportunities, which are essential to our region’s quality of life.” The City of Birchwood Village strives to match this goal through the implementation of policies and practices initiated by the City and through the goals and policies of the Rice Creek Watershed District (RCWD). Birchwood Village falls completely within the RCWD, and watershed management plans and standards for the RCWD are adopted and incorporated by reference herein.

The single greatest water issue facing the City are problems associated with stormwater runoff—especially runoff into White Bear Lake. Since Birchwood Village is considered built-out, there is little potential for significant increases of impervious surface that contribute to greater rates of runoff. However, untreated pollutants entering the lakes and wetlands are still an area of concern as much of the area was developed before surface water management techniques were developed. The City has plans in place to address such concerns as described in this chapter.

This chapter of the 2040 Comprehensive Plan for Birchwood Village therefore serves as the Local Water Resources Management Plan (LWRMP) to guide the protection and management of surface waters, ground water, and related natural resources in the City and meets the requirements of applicable state statutes, the Metropolitan Council, and the local watershed district (RCWD). The LWRMP is intended to comply with current regulations and requirements of these organizations.

Local Water Management Responsibilities and Related Agreements

The City is wholly within the RCWD which requires permits for development, redevelopment and land-disturbing activities. The RCWD has adopted rules including but not limited to the following: stormwater management (including volume and rate control and water quality), erosion and sediment control, wetland alteration, and floodplain alteration. The RCWD is also the designated Local Unit of government for purposes of the State of Minnesota Wetland Conservation Act. Birchwood Village requests RCWD to continue to implement these rules and regulations and issue permits for the City.

Table 6-1. Water Resource Jurisdiction within the City of Birchwood Village

| MANAGEMENT ENTITY | JURISDICTION |
|----------------------------|---|
| US Army Corps of Engineers | All jurisdictional wetlands |
| MN DNR | DNR protected waters & wetlands extending to the ordinary high-water elevation or top of stream banks |
| MPCA | Water quality through 401 certification and NPDES |
| RCWD | All wetlands and activities that interact with surface waters |
| City of Birchwood Village | Activities that affect wetlands and surface water |

PLAN REVISIONS AND AMENDMENT PROCEDURES

Birchwood Village’s LWRMP is intended to guide the City over the next 10 years. To keep current with local practices and policies during this timeframe and address unintended issues, the City may need to revise and update its LWRMP from time to time. Written petitions from residents for amendments must be submitted to City staff and provide supporting information for consideration. City staff may also propose amendments. Any amendments deemed feasible by the City must be approved by RCWD, Washington County, and the Metropolitan Council before adoption into the Plan.

PHYSICAL ENVIRONMENT AND LAND USE

EXISTING & FUTURE LAND USE AND PHYSICAL ENVIRONMENT

Birchwood Village was incorporated in 1921 and consists of approximately 214 acres on the southeast shore of White Bear Lake in Washington County and is fully within the jurisdiction of Rice Creek Watershed District. The City is considered fully developed and is home to approximately 850 residents. The existing and future land use is dominated by residential uses, with a small percentage of the land use for right-of-way, roadways, parks and open space. (See Figure 2-1. Community Designation Map, 2018 and Figure 2-2. Existing Land Use & Zoning Map, 2018.) The population and development in the City are expected to remain relatively unchanged during this planning period, with only small in-fill or redevelopment anticipated at current densities. (See Figure 2-3: Planned Land Use & Zoning Map, 2018.)

The physical environment of Birchwood Village is primarily a wooded setting of cottages and homes tucked into the trees and along the lakeshore. Topography is rolling with sloped land along the shores of White Bear Lake. There are two other public water bodies in Birchwood Village outside of adjacent White Bear Lake: Halls Marsh – a small wetland complex located on the east side of the City between Lake Avenue and Hall Avenue and a small portion of Lost Lake – located along the eastern portion of Hall Avenue.

Vegetative cover in the City is consistent with lake area communities as described by the Minnesota Land Cover Classification System (MLCCS) (see Figure 6-1. Minnesota Land Cover Classification System MLCCS). The bedrock in the City is mostly St. Peter sandstone and Platteville-Glenwood formations. More information about the topography, geology, soils, and climate can be found in the Rice Creek Watershed District Watershed Management Plan, accessible online at <http://www.ricecreek.org>; and Washington County’s Groundwater Plan, accessible at <https://www.co.washington.mn.us/1212/Plans>.

SURFACE WATER AND STORMWATER DRAINAGE

Birchwood Village is in the Clearwater Creek sub-watershed of the RCWD. The City’s drainage areas and paths of stormwater runoff are shown in Figures 6-2 & 6-3. Information about the volumes and rates of stormwater runoff in the City can be found in the RCWD’s Watershed Management Plan and the RCWD’s hydraulic and hydrologic modeling for this sub-watershed. Figure 6-4. RCWD Planning Regions illustrates the sub-watershed boundaries. Current modeling does not indicate issues with existing or future increased runoff within the City. More information can also be found online at <http://www.ricecreek.org> in the RCWD Future Conditions Modeling Report (February 2016).











The City is responsible for following standards that prevent or mitigate pollutants as a result of development, new construction, remodeling or re-development. All new development, new construction, remodeling or re-development must conform to the Nationwide Urban Runoff Program (NURP) standards, requirements of the National Pollutant Discharge Elimination System’s (NPDES), Storm Water Pollution Prevention Plan (SWPPP), the MS4 Permit, and the MPCA’s best management practices for erosion and sedimentation control. The City’s SWPPP is included in the Appendix for reference.

Some streets in Birchwood Village are constructed with rural road sections, and runoff primarily drains to street edges, swales, and vegetated shoulders. There are several catch basins and a few swales that drain directly to White Bear Lake. Changes to some of these have improved the quality of runoff water reaching the lake and are described below.

Figure 6-1. Minnesota Land Cover Classification System Map



Minnesota Land Cover Classification System (MLCCS)

- | | |
|---|--|
|  | Oak (forest or woodland) with 26-50% impervious cover |
|  | Altered/non-native deciduous woodland |
|  | Oak woodland-brushland |
|  | Palustrine open water |
|  | Littoral open water |
|  | Long grasses on upland soils |
|  | Cattail marsh - seasonally flooded |
|  | Pavement with 91-100% impervious cover |
|  | Short grasses and mixed trees with 26-50% impervious cover |
|  | undefined |

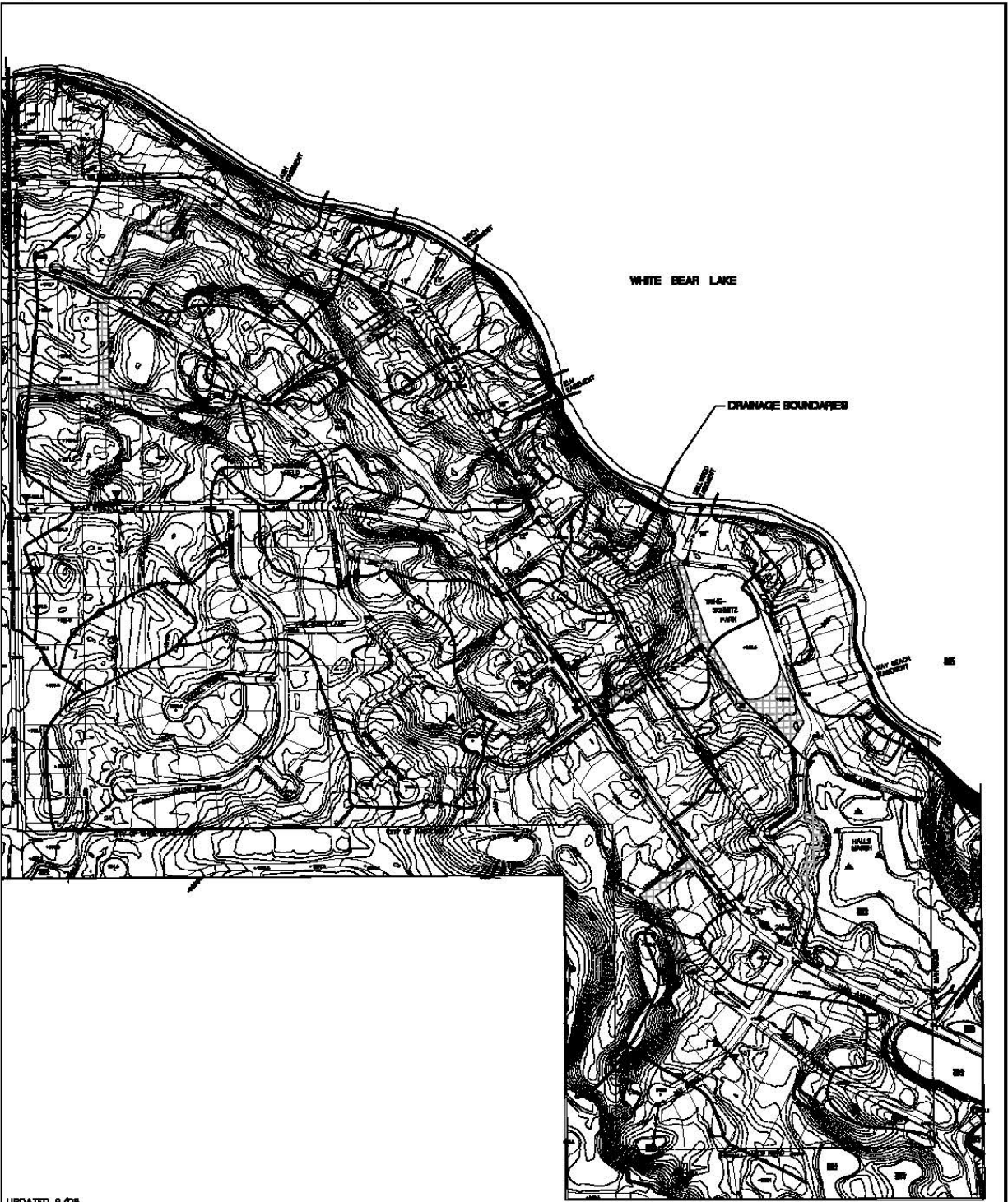
DRAFT



Source: Metropolitan Council, MnDNR, Birchwood Village, Washington County

Rev. Date: 4.1.2019
Date: 9.20.2017
Prepared by: SHC, LLC

Figure 6-2: Birchwood Stormwater Runoff Map



UPDATED 9/06

ELFERING & ASSOCIATES

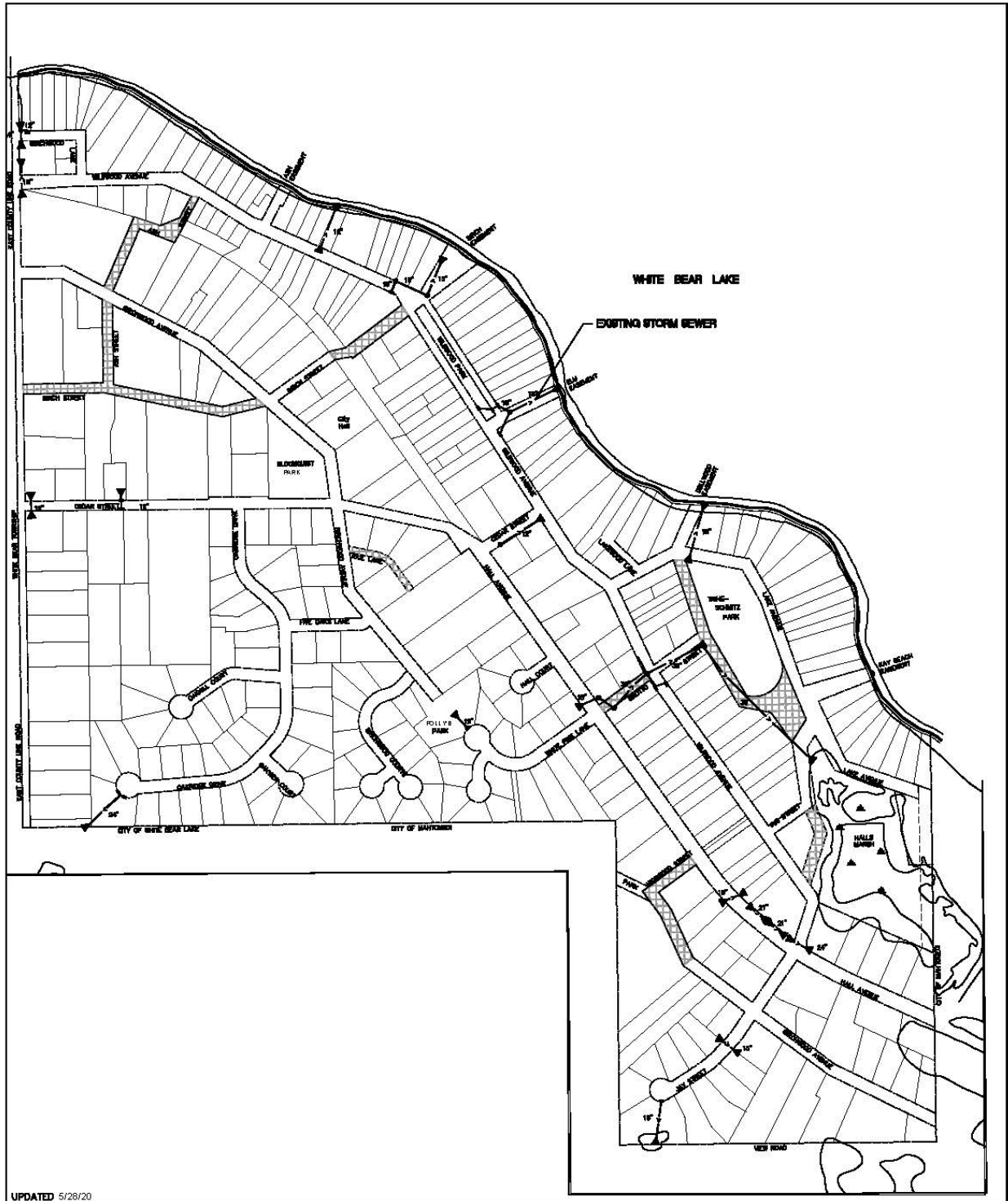


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**CITY OF BIRCHWOOD VILLAGE
DRAINAGE AREAS**

**FIGURE
1**

Figure 6-3: Birchwood Storm Sewer Map




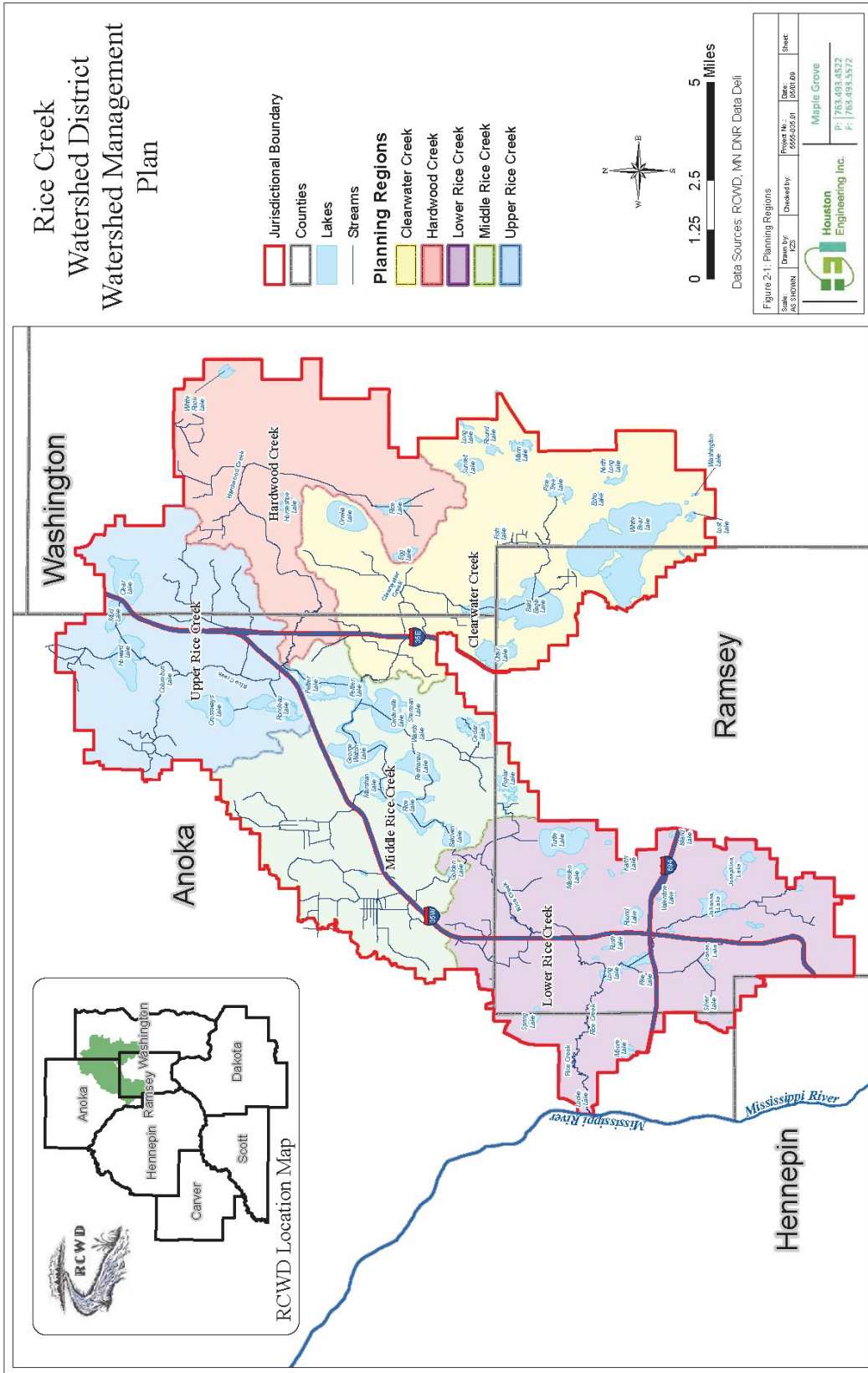
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| <p>UPDATED 5/28/20</p> |  <p>10082 FLANDERS COURT NE BLAINE, MN 55449 PH: (763) 780-0400 FAX: (763) 780-0452</p> | <p>CITY OF BIRCHWOOD VILLAGE STORM SEWER</p> | <p>FIGURE II</p> |
|------------------------|--|---|-----------------------------|

Figure 6-4. RCWD Planning Regions



In 1965, in conjunction with the construction of some newly curbed streets, runoff was concentrated to the point where storm sewer culverts became necessary at a few locations to prevent erosion or to conduct runoff through park areas where the presence of open ditches were considered undesirable.

No additional storm sewers were needed until the early 1970's when residential development in new areas began to raise concerns about increasing runoff rates. In 1974, in conjunction with the platting of Birchwood Ridge #2, a 20-foot wide public easement was provided to enable future construction of a storm sewer along White Pine Lane and Grotto Street to the lake. In late 1970's, the Priebe Lake Outfall project was constructed in this area by the RCWD. Priebe Lake lies within the City of White Bear Lake, but the outfall runs almost exclusively through Birchwood Village to Halls Marsh.

PUBLIC WATERS

There are three waterbodies listed by the City as public waters:

- White Bear Lake - MN DNR ID #82-167 - OHW 924.89ft
- Hall's Marsh - MN DNR ID #82-480W - OHW 924.7ft
- Lost Lake - MN DNR ID #82-134 - OHW 925.6ft

Lost Lake is located mostly outside the City boundaries. Runoff from the far eastern portion of Birchwood Village does drain into the water body and is therefore included within the City's inventory.

Within the boundaries of Birchwood Village there is only one body of water that is listed on the 303d impaired waters list: White Bear Lake (MPCA www.pca.state.mn.us). The lake is listed as impaired water 82-0167-00 under the use classes of 2B and 3C. It is also designated by MN DNR as a Lake of Biological Significance (with a ranking of "high"). Lost Lake is located just outside of the City's south-eastern boundary but is also listed as an impaired water as 82-0134-01 and 82-0134-02 under the use class of 2B and 3C.

Groundwater

The City of Birchwood Village follows regulations and standards for groundwater protection, preservation, and use from various state and local agencies charged with monitoring and regulating water quality and consumption. These agencies include:

- The MPCA, which monitors water quality and enforces laws relating to water pollution.
- The Minnesota Geological Survey, which compiles a state inventory of groundwater resources.
- The Minnesota Department of Natural Resources (MN DNR), which regulates the usage rate and volume of drinking water. Domestic water use is regulated with permits. Use in excess of 25 people or use that exceeds 10,000 gallons per day or 1,000,000 gallons per year must obtain a water appropriation permit from MN DNR.
- The Minnesota Department of Health (MDH) is responsible for environmental groundwater quality protection and facilitates well abandonment and installation of new wells.
- Rice Creek Watershed District serves in an advisory capacity related to groundwater protection and use and cooperates and assists state agencies in their groundwater protection efforts.

The City recently adopted a water sprinkling code that prohibits watering during specific daylight hours. Residents believe water conservation is important and have asked the City to contact violators watering in violation of this code.

The City also monitors water usage by individual residents to determine if there is excess usage. The City has reached out to those to provide advice on moisture monitors for their sprinkling systems or to check for leaks in their systems. The City has adopted water rates that encourage efficient use of this resource and impose significantly higher fees for excessive use. The success of this tool is being reviewed.

Washington County developed the Washington County Groundwater Plan that provides a county-wide structure for preserving and protecting the county's groundwater supply. The groundwater plan can be found online at <https://www.co.washington.mn.us/DocumentCenter/View/794>.

Birchwood Village is fully within the Metropolitan Urban Service Area (MUSA) and serviced with municipal water and sanitary sewer. Private septic systems are not a concern for groundwater issues in this area.

EXISTING AND POTENTIAL WATER RESOURCE-RELATED PROBLEMS

EXISTING WATER RESOURCE PROBLEMS

Birchwood Village is a regulated MS4 on a few Total Maximum Daily Loads (TMDL), including the Peltier/Centerville Lake TMDL and the Upper Mississippi River Bacteria TMDL. One way the City has addressed the Peltier/Centerville Lake TMDL is by installing storm runoff catch basins and rain gardens to reduce the amount of sediment that runs into White Bear Lake. The City replaced and expanded its rain garden at Birch Beach in Fall 2018. One way the Upper Mississippi River Bacteria TMDL has been addressed is by requiring any person in custody or control over an animal to immediately remove and dispose of the animal's feces in a sanitary manner (see Birchwood Code 605.044). The City adopted this ordinance in 2010 for the health and safety of all.

The City lies entirely within a moderate to highly vulnerable Drinking Water Supply Management Area (DWSMA). The source of all of the City's drinking water is from an underground aquifer. The well is owned and managed by the City of White Bear Lake. Some water from White Bear Lake has been found in the aquifer water supply, although the City has little direct control over how its drinking water is drawn.

The City established a Utilities Committee in 2014 to evaluate and make recommendations to the City Council about its water and sewer utilities. The Committee contributes to the protection of this sensitive water resource by monitoring and advising on City water usage rates. In 2017 the City replaced its toilets with low-flow water conserving toilets and encouraged residents to do the same by participating in a program designed to reduce water demand.

Birchwood Village discharges storm water runoff to White Bear Lake at several points along the northwest side of the City. At most of these points, sediment in the stormwater runoff used to enter the lake without any prior treatment. A program was begun in 2007 to install storm sewer structures with sumps prior to the outlet point.

A large amount of storm water runoff enters directly into White Bear Lake at the intersection of East County Line Road and County Road F. This runoff is heavily loaded with nutrients and sediment. Ramsey County recently installed a series of best practices management tools at this location to retard and treat storm water running off County 120 into White Bear Lake.

In recent years, the City has constructed multiple smaller projects to address storm water issues. The first, completed in 2002, consisted of installing a baffle on an outlet from the two catch basins on Oakridge Drive. This baffle is designed to slow down the stormwater velocity coming out of the outlet, which drains into a swale running along

property lines of homes in the City of White Bear Lake. A permanent erosion control blanket was installed along this swale in 2005.

A few years ago, the City initiated a semi-annual, city-wide leaf pick up service. This benefit is popular with residents and prevents significant amounts of phosphorus (released from the decaying leaf matter) from running off into White Bear Lake and contaminating the water. A semi-annual street sweeping policy provides more of the same benefit to the lake, along with reducing salt and sediment contamination.

In 2006, the City installed a concrete cable swale parallel to the existing bituminous Birch/Owl Walkway. This swale is designed to remove sediment from the stormwater runoff while it is traveling through the swale, which in turn reduces the amount of sediment entering White Bear Lake. The construction of this concrete swale also created a walking trail along the easement since it was intended to direct the stormwater away from the walkway. This concrete swale has not worked as effectively as it was intended. Stormwater is not slowed down and continues to course down the swale as well as the walkway, down Owl Street and into Birch Beach. However, sump catch basins at the base of this swale do remove sediments from this area. These sumps have not been over-raced with sediment.

In 2007, three existing catch basins were removed along Wildwood Avenue and the Elm Beach Easement and replaced with new catch basins that have 4-foot sumps incorporated in them. These 4-foot sumps trap sediment in the catch basin, which diminish the amount of sediment entering White Bear Lake. Birchwood Village has outlined a maintenance schedule to clean structures with sumps every fall and spring.

White Bear Lake is listed on the MPCA 303d Impaired Waters list for mercury. There are currently state laws that require households to recycle fluorescent lamps, ban items that contain mercury in toys, games, apparel, and thermometers, and require removal of mercury prior to demolition of homes. Birchwood Village will promote the proper disposal of items that contain mercury in the Village Newsletter as well as an alert on its website.

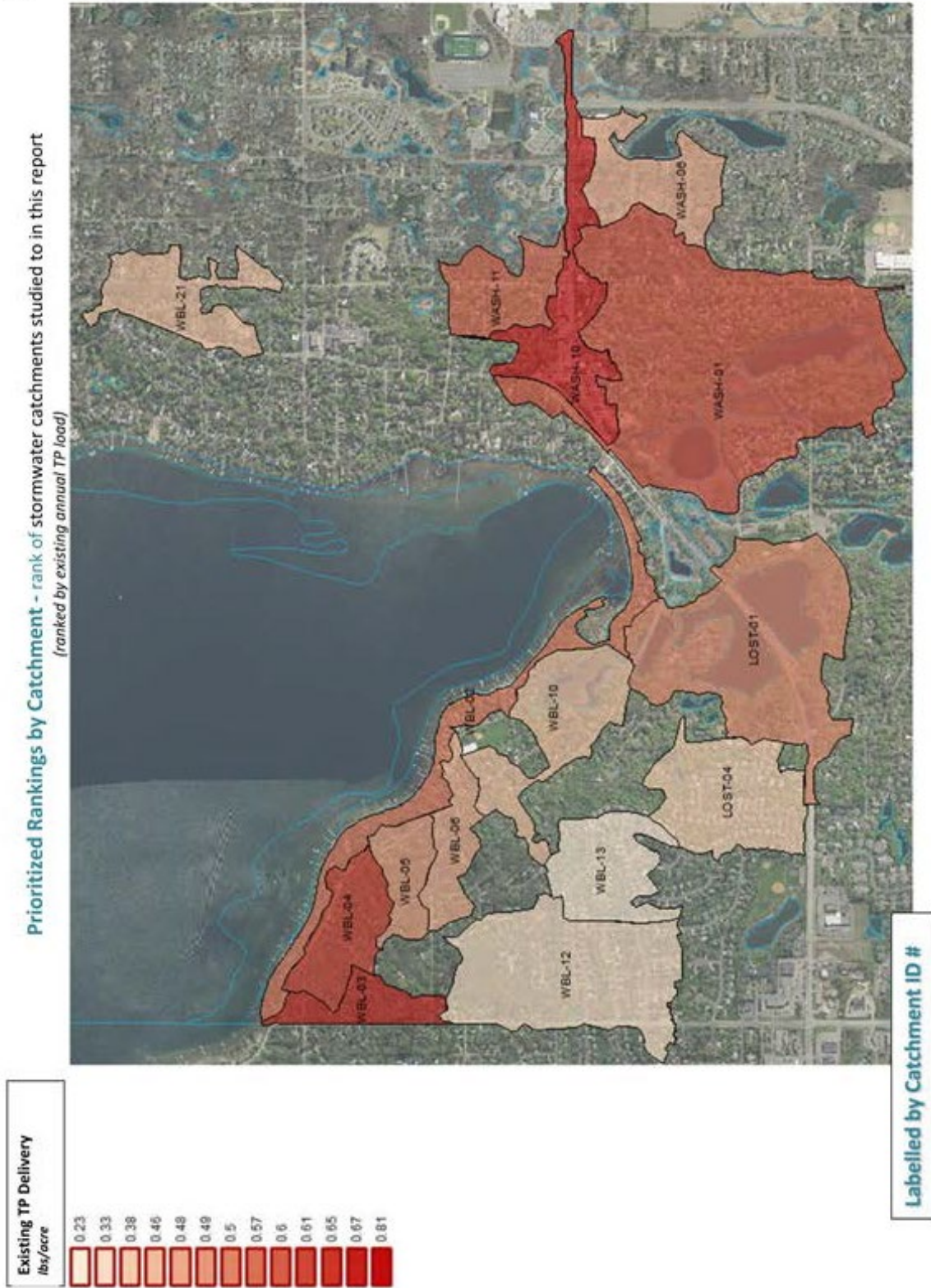
POTENTIAL WATER RESOURCE PROBLEMS

Because Birchwood Village's storm water runoff discharges directly to White Bear Lake at several points along the northwest side of the City, the City monitors and will continue to monitor its sump systems and stormwater structures. Doing so ensures the sumps are properly collecting sediment and that the structures are sound. Sumps are checked twice per year and cleaned when necessary. Other stormwater structures are reviewed for function and repair on a five (5) year schedule. The City may need to invest in the structural maintenance or replacement of its sumps in the future to ensure they continue to function.

Birchwood Village installed a rainwater garden along Birch Beach in 2004. This garden collected substantial sediment from the roadway, which limited the effectiveness of the garden. Installation of catch basins with sumps aid in alleviating the amount of sediment entering the garden. The rainwater garden was replanted in 2008 and again in 2018 and will continue to be monitored.

The City has two public roadways adjacent to Halls Marsh, Iris/Jay Street and Lake Avenue. The roads run alongside the marsh for approx. 1/3 of the perimeter and the storm water runoff is directed to the marsh through the existing drainage patterns. There is also a culvert from Tighe-Schmitz Park that directly discharges into Halls Marsh. If the City deems it reasonable as part of a future street project, treatment of the storm water runoff may be desired in order to promote a reduction in the sediment and nutrient loaded water from entering Halls Marsh. Possible government entities that may be involved with reducing the storm water runoff could be: Mahtomedi, Birchwood Village, Rice Creek Watershed District, Washington Conservation District, and the White Bear Lake Conservation District.

Figure 6-5. Catchment Analysis Map



In May of 2017, the Washington Conservation District prepared the SE White Bear Lake Stormwater Retrofit Analysis for the Rice Creek Watershed District. This document analyzed and provided a prioritized list (ranked by cost effectiveness) of stormwater retrofit recommendations to improve the treatment of stormwater runoff in several drainage areas connected to White Bear Lake, Lost Lake and Lake Washington. The analysis considers all of Birchwood Village's runoff areas (catchments) and provides a detailed analysis with recommendations. Note that these catchments are not official and were created in order to rank practices more effectively by geographic area. The existing stormwater management practices within each catchment were analyzed for the annual pollutant loading of the following: Total Phosphorous (TP), Total Suspended Solids (TSS), and Water Quality Volume (WQV). (See Figure 6-5. Catchment Analysis Map). Although the City has not analyzed which SWA projects it may consider, it will review the recommendations as part of any feasibility study.

Table 6-2. Catchment Analysis Results (Source: RCWD South East White Bear Lake Stormwater Retrofit Analysis Report, 2017)

| Project Rank | Catchment ID Lake-## | Retrofit Type | Projects Identified | TP Reduction (lb/yr) | TSS Reduction (lb/yr) | Volume Reduction (ac-ft/yr) | Total Cost | Annual Operations & Maintenance (2017 Dollars) | \$ Cost/lb-TP/Year (10-year) | \$ Cost/ton-TSS/year (10-year) |
|--------------|----------------------|--|---------------------|----------------------|-----------------------|-----------------------------|------------|--|------------------------------|--------------------------------|
| 1 | LOST-01 | Increased Street Sweeping to 4x per year | 1 | 2.78 | 1209 | 0.00 | \$784 | \$0 | \$28 | \$130 |
| 2 | WBL-02 | Increased Street Sweeping to 4x per year | 1 | 1.30 | 520 | 0.00 | \$672 | \$0 | \$56 | \$258 |
| 3 | WBL-10 | Increased Street Sweeping to 4x per year | 1 | 1.07 | 464 | 0.00 | \$820 | \$0 | \$77 | \$354 |
| 4 | WBL-04 | Increased Street Sweeping to 4x per year | 1 | 0.96 | 416 | 0.00 | \$781 | \$0 | \$81 | \$375 |
| 5 | WBL-03 | Increased Street Sweeping to 4x per year | 1 | 0.50 | 216 | 0.00 | \$798 | \$0 | \$160 | \$739 |
| 6 | WBL-05 | Increased Street Sweeping to 4x per year | 1 | 0.29 | 128 | 0.00 | \$730 | \$0 | \$252 | \$1,140 |
| 7 | WBL-05 | Increased Street Sweeping to 4x per year | 1 | 0.26 | 114 | 0.00 | \$721 | \$0 | \$277 | \$1,265 |
| 8 | WBL-04 | BMP 29: Expand SAFL Baffle to Grit Chamber | 1 | 1.99 | 691 | 0.00 | \$8,100 | \$200 | \$528 | \$3,730 |
| 9 | WBL-03 | BMP 0: Pipe Repair + Grit Chamber | 2 | 2.28 | 1012 | 0.00 | \$15,325 | \$200 | \$760 | \$3,424 |

| Project Rank | Catchment ID Lake-## | Retrofit Type | Projects Identified | TP Reduction (lb/yr) | TSS Reduction (lb/yr) | Volume Reduction (ac-ft/yr) | Total Cost | Annual Operations & Maintenance (2017 Dollars) | \$ Cost /lb-TP/Year (10-year) | \$ Cost/ton-TSS/year (10-year) |
|--------------|----------------------|---|---------------------|----------------------|-----------------------|-----------------------------|------------|--|-------------------------------|--------------------------------|
| 10 | WBL-02 | BMP 5: BioFiltration Basin | 1 | 2.86 | 851 | 0.71 | \$17,658 | \$450 | \$775 | \$5,208 |
| 11 | WBL-10 | BMP 6: BioFiltration Basin in Park | 1 | 3.81 | 849 | 0.95 | \$23,050 | \$750 | \$802 | \$7,197 |
| 12 | WBL-06 | BMP 31: Infiltration Basin South of Cedar Lower | 1 | 1.23 | 464 | 0.19 | \$9,104 | \$225 | \$923 | \$4,894 |
| 13 | WBL-05 | BMP 4: BioFiltration Basin | 1 | 1.53 | 588 | 0.99 | \$10,291 | \$400 | \$934 | \$4,861 |
| 14 | WBL-04 | BMP2: BioFiltration Basin in Front Yard | 1 | 2.91 | 871 | 1.19 | \$23,554 | \$200 | \$1,167 | \$5,868 |
| 15 | WBL-02 | BMP:38-42: Swale with Riprap Sump | 1 | 1.23 | 395 | 0.33 | \$9,308 | \$900 | \$1,485 | \$9,270 |
| 16 | WBL-04 | BMP3: Expand Swale and Sump | 2 | 0.40 | 169 | 0.34 | \$5,000 | \$100 | \$1,508 | \$7,101 |
| 17 | WBL-04 | BMP30:Bioinfiltration Basin in Woods | 1 | 1.27 | 478 | 0.64 | \$18,950 | \$200 | \$1,648 | \$8,766 |
| 18 | WBL-06 | BMP 33: Infiltration Basin North of Cedar | 1 | 0.73 | 321 | 0.34 | \$9,920 | \$300 | \$1,763 | \$8,050 |
| 19 | WBL-06 | BMP 31 +32 ALT Combined | 2 | 1.49 | 583 | 0.68 | \$21,894 | \$600 | \$1,873 | \$9,569 |
| 20 | WBL-06 | BMP 32: Infiltration Basin South of Cedar Upper | 1 | 0.57 | 236 | 0.31 | \$14,940 | \$375 | \$3,262 | \$15,839 |
| 21 | WBL-03 | BMP 1: Curb Cut Raingarden | 1 | 0.70 | 65 | 0.00 | \$20,086 | \$525 | \$3,619 | \$77,957 |
| 22 | WBL-02 | Typical Shoreline Restoration | 20 | 3.00 | 500 | 0.00 | \$73,400 | \$5,850 | \$4,397 | \$52,760 |

Water Resources Goals & Policies

WATER SUSTAINABILITY GOALS

The water sustainability goals of Birchwood Village are in part shaped by the policy designations the City is required to meet as part of the Metropolitan Council's Thrive MSP 2040 Water Sustainability Policy as provided within the 2015 Birchwood Village System Statement. Birchwood Village falls into the Suburban Community Designation and with that includes the following water sustainability practices:

- Implement best management practices to control and treat storm water as redevelopment opportunities arise.
- Explore alternative water supply to ensure adequate water resources beyond 2040.

WATER RESOURCES MANAGEMENT POLICIES

1. Continue to defer wetland alteration and mitigation requirements consistent with the Wetlands Conservation Act to Rice Creek Watershed District.
2. Assist RCWD in implementing its Watershed Management Plan as it pertains to Birchwood Village.
3. Enforce the Minnesota Pollution Control Agency's urban best management practices; titled Protecting Water Quality in Urban Areas to reduce non-point source pollutant loadings in storm water runoff.
4. Require that storm water ponds meet the design standards of the National Urban Runoff Program; and
5. Enforce shore land management regulations of the Minnesota Department of Natural Resources.
6. Implement MS4 Permit and SWPPP best management practices.
7. The City of Birchwood Village reviews all building and land disturbance permits under one acre. Rice Creek Watershed District requires permits for several rules that include, but are not limited to, the following: Stormwater Management, Erosion and Sediment Control, Floodplain Alteration, and Wetland Alteration. More information on when a watershed district permit is needed can be found on RCWD's website. Before the City gives its final approval, the resident must obtain the required permits from the watershed district.
8. The City requests the RCWD continue to implement its rules and regulations and issue permits within the municipal boundaries of Birchwood Village.
9. The City will partner with Washington County when appropriate to implement its Groundwater Management Plan.

General Standards for the City to meet compliance with RCWD rules and regulations include the following:

1. When possible, existing natural drainage ways, wetlands and vegetated soil surfaces must be used to convey, store, filter, and retain storm water runoff before discharge to public waters, applying pre-treatment and energy dissipation methods prior to discharge.
2. Development must be planned and conducted in a manner that will minimize the extent of the disturbed areas, runoff, velocities, erosion potential, and reduce and delay runoff volumes.
3. When development density, topographic features, and soil and vegetation conditions are not sufficient to adequately handle storm water runoff using natural features and vegetation, various types of constructed facilities such as diversions, settling basins, skimming devices, dikes, waterways, and ponds may be used.

NPDES PHASE II

Birchwood Village is required to have a Municipal Separate Storm Sewer System (MS4) permit through the MPCA's National Pollutant Discharge Elimination System (NPDES) Phase II Program of the Minnesota Pollution Control Agency (MPCA), although it does not fall within the population requirements for a Permit. MS4 Permits are required for communities with urban development and populations over 10,000, or with urban development and populations over 5,000 that have potential to discharge to valuable or polluted waters.

In accordance with its MS4 Permit, Birchwood Village is required at a minimum to implement six control measures:

- Public Education and Outreach
- Public Participation/Involvement
- Illicit Discharge Detection and Elimination
- Construction Site Stormwater Runoff Control
- Post-Construction Stormwater Management
- Pollution Prevention/Good Housekeeping for Municipal Operations

For more information on the MS4 Permit requirements, see the MPCA's rules online at www.pca.state.mn.us.

OFFICIAL CONTROLS

Specific standards for land use development require:

- Impervious surface to be limited to 25 percent of the lot area
- No increase in the rate of storm water runoff from the parcel
- Gutters and downspouts to have drain leaders routed to pervious areas
- No clear cutting of trees
- Natural vegetative buffer at shore land and wetland

Specific standards for infrastructure development require:

- New storm water outfalls to public waters or wetlands to provide for filtering or settling of suspended solids before discharge.
- Storm water detention facilities to be designed according to the most current technology, as recommended by the MPCA, including pretreatment and energy dissipation measures.

The City requires a grading and filling permit to minimize and control storm water runoff, prevent erosion and trap sediment during construction. Provisions in the City code address size of disturbed area, length of exposure, use of temporary ground cover, use of runoff control devices such as silt fences, location of storage piles, and placement of fill material. The City is committed to using and encourages residents to also use biodegradable erosion control netting when applying temporary ground cover to prevent entrapment and death of small animals.

The City of Birchwood Village maintains official controls for the purposes of water management and environment protection within their Municipal Code.

EDUCATION PROGRAM

As part of Birchwood Village’s commitment to education, an important component of the MS4 Permit compliance, the City will continue to provide education to increase public awareness and participation in local surface water management. Opportunities will continue to be presented to residents, developers, and others to help improve strategies and implementation for increasing water quality and reducing runoff in the City. Examples may include:

- Wetland buffer delineation and management
- Best management practices for storm water infiltration
- Best management practices for storm water runoff reduction and control
- Invasive species control
- Conservation easements
- Sustainable groundwater recharge

COLLABORATION WITH AGENCIES & ORGANIZATIONS

There are a number of local, state, and federal agencies that have rules and regulations related to local water management. The City recognizes the roles of these other agencies and will cooperate, coordinate, and when possible partner with these agencies.

This chapter recognizes the many agencies and organizations involved with regulating groundwater and surface water management. It is the intention of Birchwood Village to cooperate, collaborate, and coordinate efforts with these agencies to achieve successful water management within the City. Each of these organizations hosts various resources, plans, data, rules, and regulations for water management at the related website:

Federal

- Environmental Protection Agency: www.epa.gov
- US Army Corps of Engineers: www.mvp.usace.army.mil
- US Fish and Wildlife Service: www.fws.gov

State

- Minnesota Environmental Quality Board: www.eqb.state.mn.us
- Minnesota Department of Natural Resources: www.dnr.state.mn.us
- Minnesota Pollution Control Agency: www.pca.state.mn.us
- Minnesota Department of Health: www.health.state.mn.us
- Board of Water and Soil Resources: www.bwsr.state.mn.us
- Minnesota Department of Agriculture: www.mda.state.mn.us

County

- Washington County: www.co.washington.mn.us
- Washington Conservation District: www.mnwcd.org

Regional

- Rice Creek Watershed District: www.ricecreek.org
- Metropolitan Council: www.metrocouncil.org

CHAPTER 7: WATER SUPPLY & SANITARY SYSTEMS

Introduction

This chapter of the 2040 Comprehensive Plan addresses water supply and wastewater (sanitary sewer) systems in the City of Birchwood Village. Consistent with the Metropolitan Council's Thrive MSP 2040 planning and 2040 Water Resources Policy Plan. This chapter primarily intends to assist the Metropolitan Council Environmental Services (MCES) with continued operation of the Metropolitan Disposal System (MDS) for wastewater collection and treatment. Both Water Supply and Sanitary services are managed and maintained by authorities outside of the City of Birchwood Village. Intercommunity agreements for these services are included in the Appendix.

The City continues to educate and notify its residents that many substances and items are deleterious to the sanitary sewer system, resulting in significant maintenance and repair costs. An educational flyer is provided periodically in the quarterly Birchwood Village newsletter and is also sent to all new residents to be good stewards of the sewer system. The City also notifies residents when significant problems have occurred and solutions attained to ensure the residents are aware the City is working to achieve and manage a well-run sanitation system.

Water Supply Plan

Since the 1960s, municipal water service has been supplied to residents of Birchwood Village by the City of White Bear Lake, which owns and maintains the municipal water supply utilities. Birchwood Village has a network of water mains consisting largely of 6-inch cast iron pipe. All repairs and maintenance of the system are contracted out and repairs are made on an as-needed basis.

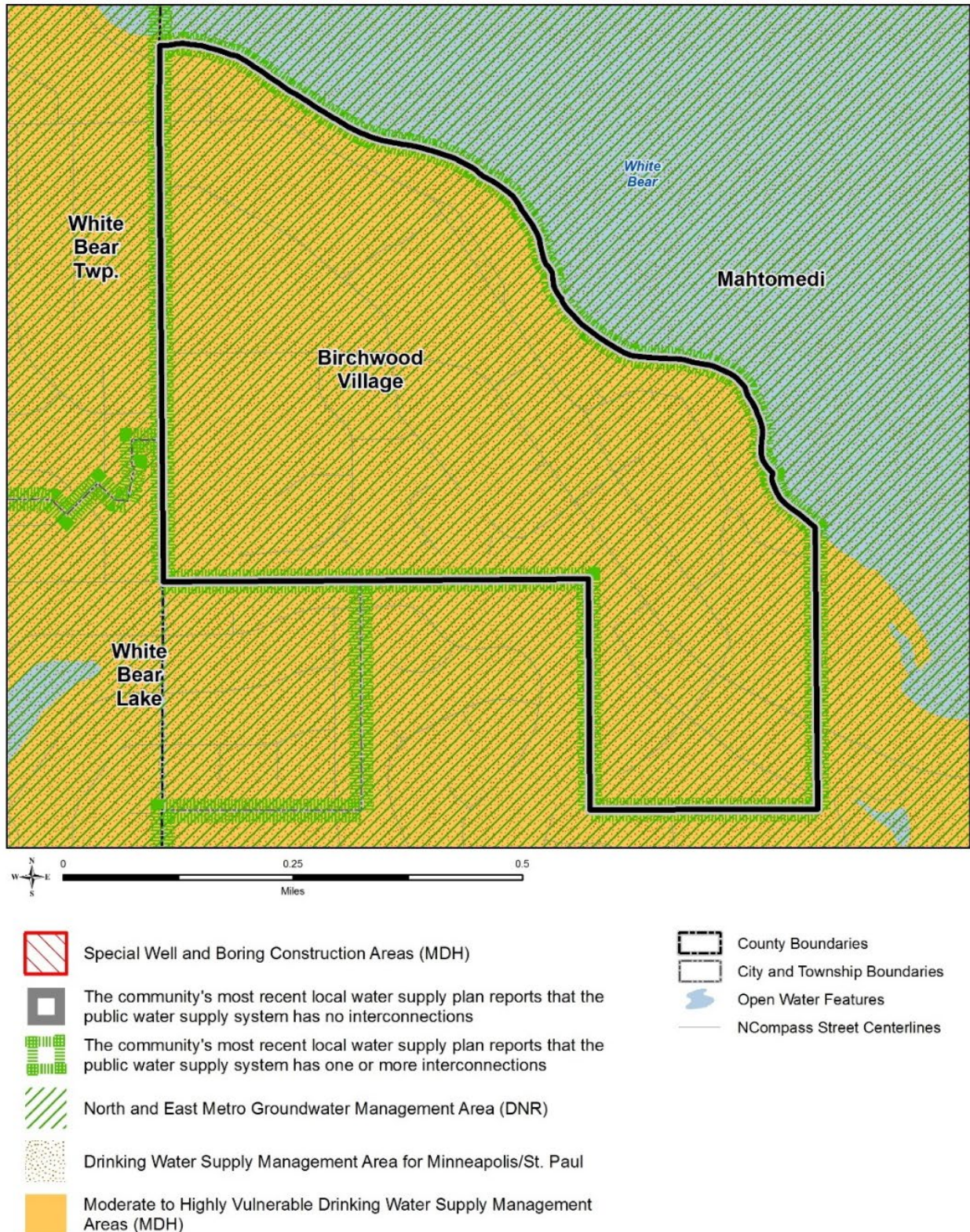
The City of Birchwood Village does not have any wells, and all municipal water is purchased from the City of White Bear Lake. The connection for municipal water is located in the southwest corner of the City beneath East County Line Road. An additional water supply connection from White Bear Township was constructed in 1982 for emergency back-up use. A current agreement between the two communities is in place for this connection, which has been utilized infrequently since 1982. No modifications or improvements to these connections are necessary at this time.

Currently, there are no replacement projects or updates planned for the City's water system. As the City does not manage its own water supply, a Water Supply Plan is not included as part of the 2040 Comprehensive Plan. More information about the local water supply plan can be found by contacting the City of White Bear Lake. However, the City is evaluating potential efforts to reduce unnecessary water usage by residents.

Birchwood Village is within the North and East Metro Groundwater Management Area (GWMA), designated by MN DNR. The North and East Metro GWMA includes all of Washington County, all of Ramsey County, and a portion of Anoka and Hennepin Counties. The GWMA Plan will guide MN DNR's efforts to manage groundwater appropriations sustainably in this area over the next five years. The Plan establishes sustainability goals to help appropriation permit holders plan for their future water use and ensure that groundwater supplies remain adequate to meet human needs while protecting lakes, streams and wetlands. Figure 7-1 shows Birchwood Village and its inclusion within an area identified with moderate to highly vulnerable drinking water supply management—an issue addressed by the City of White Bear Lake.

Figure 7-1. Municipal Public Water Supply System

Municipal Public Water Supply System Interconnections and Management Areas Birchwood Village, Washington County



Wastewater (Sanitary) Sewer System

System Features

The City of Birchwood Village is served by the regional sanitary sewer service. The sanitary sewer system, as shown in Figure 7-2, is owned by Birchwood Village and managed by White Bear Township. The system is considered its own district and only has one connection to the Metropolitan Disposal System. Birchwood Village is located within the Metropolitan Council's District 12. It does not have a wastewater treatment facility.

The original mains are predominately 9-inch clay pipe and were installed in 1964. None of the local sanitary sewer lines equal or exceed 12-inches. Up until 2019, the system was served by three lift stations located at 1) 407B Lake Avenue (Dellwood Lift Station), 2) 220 Wildwood Avenue (Wildwood Lift Station), and 3) at the west end of Birchwood Lane near East County Line Road (Birchwood Lane Lift Station). In 2019 the City removed the lift station at Birchwood Lane from the system and replaced it with a gravity fed sewer connection to White Bear Township. The City entered a Joint Powers Agreement with the Township to have the Township take over the sewer services for the thirteen (13) Birchwood Village residents whose effluent previously flowed into the Birchwood Lane Lift Station. The City's current system is now served by the two remaining lift stations.

All effluent entering the City's system is passed into the Metropolitan Council Environmental Services (MCES) sewer and ultimately treated at the Pigs Eye Treatment Plant in St. Paul. Except for the waste from the thirteen (13) homes that now flow to White Bear Township before entering the MCES system, the City's waste enters the MCES system through a gravity interceptor beneath East County Line Road on the western border of the City (see Figure 7-2). A metering station is also located at this connection point denoted as meter M028A, as seen on Figure 7-3. The Metropolitan Council has estimated wastewater flow from Birchwood Village, as shown in the next section of this chapter and also reflected in Table 7-1.

Because the City is fully developed and there are few opportunities for redevelopment in the community, only slight growth in the City's population is anticipated. Accordingly, the City does not see a need to consider future sanitary sewer connection points for new growth.

Prior to 2015 the City relied on its sewer contractor to provide emergency generator service to its lift stations in the event of a power outage. This left some residents who had sewer pipe elevations similar to the lift station vulnerable to sewage back up. As a result, the City purchased and installed a large, permanent generator that automatically starts when a power outage occurs. The generator has been used on a few occasions already and has proved to be a wise investment.

The City also installed a SCADA monitoring system of its lift stations that allows the stations to be monitored off site. Significantly reducing site visits has created substantial savings to the City with no reduction in service or maintenance.

SYSTEM FLOWS AND CAPACITY

It is anticipated that the total volume of wastewater flow will not change significantly through 2040, and there will therefore be no need to upgrade existing infrastructure. All future investments for Birchwood Village's sanitary sewer system will be in the maintenance, repair, or replacement of the existing pipes and lift stations. The sanitary sewer system must be capable of handling the anticipated peak flows, estimated by applying a peak flow factor to the average flow. The peak flow factor accounts for flow variability and includes an allowance for infiltration and inflow.

System flows have been estimated for current (2018) conditions as well as 2040 projected land use conditions. The average wastewater flow from the sanitary sewer district has been estimated by applying unit flow rates to each land use category. The existing trunk system has adequate capacity for the estimated flows.

Table 7-1 Birchwood Village Adjusted Projections

| | 2020 | 2030 | 2040 |
|-------------------------------|------|------|------|
| Population | 850 | 830 | 800 |
| Households | 360 | 360 | 360 |
| Employment | 30 | 30 | 30 |
| Average Wastewater Flow (MGD) | 0.05 | 0.05 | 0.05 |
| Allowable Peak Flow (MGD) | 0.23 | 0.23 | 0.23 |

Source: Metropolitan Council (Peak Flow Factor = 4.5)

INFLOW AND INFILTRATION

MCES I/I Surcharge Program

In February of 2006, Metropolitan Council instituted its Inflow/Infiltration (I/I) Surcharge Program. The fundamental policy statement summarizing this program is that Metropolitan Council “will not provide additional capacity within its interceptor system to serve excessive inflow and infiltration.” The Council establishes inflow and infiltration thresholds for each of the communities that use its system. Communities that exceed this threshold were required to eliminate this excess flow within a reasonable time-frame or pay a surcharge fee. In 2013, Metropolitan Council instituted a wastewater demand charge program for communities that did not meet their inflow and infiltration goal(s).

Infiltration and Inflow Prevention

The City of Birchwood Village has several measures in place to prevent infiltration and inflow (I/I) into the sanitary sewer mains. Ordinance 202.100 states that it shall be unlawful for anyone to direct storm water, surface water, ground water, or water from air conditioning systems into the sanitary sewer and prohibits the connection of sump pumps, rain leaders, and passive drain tile to the sanitary sewer system. In addition, the City installed a SCADA system to monitor any abnormal change in flow volume.

MAINTENANCE REPORT

Birchwood Village had its entire sanitary sewer system televised during the summer of 2003. Approximately half of the system was found to have significant deterioration and/or had high amounts of infiltration. In order to prevent further deterioration of the lines to the point where open trench replacement would be necessary, rehabilitation of approximately one-half of the mains by lining the sewer was done. This work was completed in the winter of 2005. In 2006, the sanitary sewer along Birchwood Lane was also rehabilitated by the cured-in-place pipe (CIPP) process. Another section was rehabilitated in 2008 and in the first half of 2018 the City finished lining the remaining sanitary sewer lines, both using the same method. The CIPP projects will extend the life of the pipes 50-100 years.

There are currently two lift stations within Birchwood Village. The Wildwood Lift Station was reconstructed in 2001. The reconstruction of the lift station consisted of removing and installing new pumps and piping inside the existing

concrete structure. The Dellwood Lift Station was completely replaced in 2004. This work included removing and constructing a new concrete structure and installing new pumps and piping inside the structure. A third lift station located on Birchwood Lane was removed in 2019. The sanitary sewer lines from the 13 homes that were previously serviced by the Birchwood Lane Lift Station are now connected to White Bear Township.

Maintenance Issues

The pumps in the Birchwood Lane station began to fail in 2018. The City worked closely with White Bear Township to remove this station from the City's sanitary sewer system and move its service to a nearby station owned by and located in White Bear Township. A gravity line was built to connect to the White Bear Township system removing the need to build a new lift station as well as saving the ongoing annual maintenance and repair costs of an extra lift station. Ongoing maintenance of the remaining two lift stations will still be necessary.

There are several areas where gravity sanitary sewer is located outside of street right-of-way. These areas are located behind 127-173 Birchwood Avenue, behind 146-152 Wildwood Avenue, behind 101-117 Wildwood Avenue and along White Bear Lake between 339 Wildwood Avenue and the Dellwood Easement. Access to these locations with conventional maintenance equipment is extremely difficult, if not impossible. The City has discussed the need for additional easements that would be necessary to gain access. The fact that these sewers are located in wooded or inaccessible areas leads to significant concerns regarding root problems. All these mains have been reviewed as part of the televising that was completed, have been CIPP lined and will continue to be monitored.

See sanitary sewer system maps on the following two (2) pages.

Figure 7-2. Birchwood Village Sanitary Sewer Mains

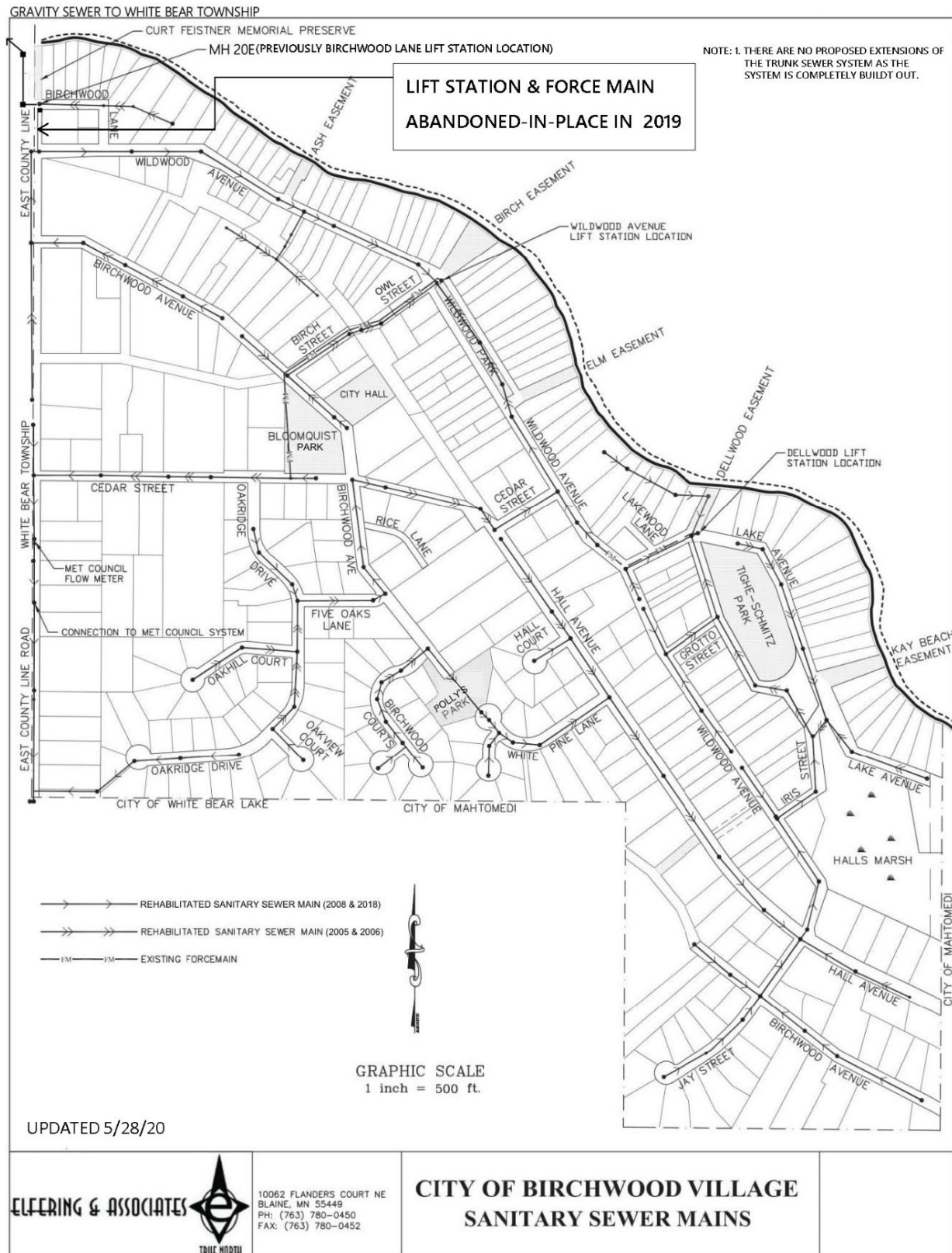
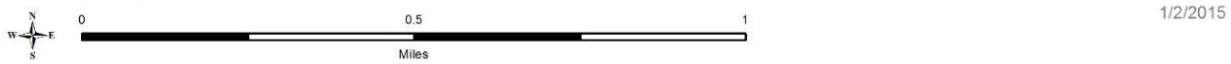
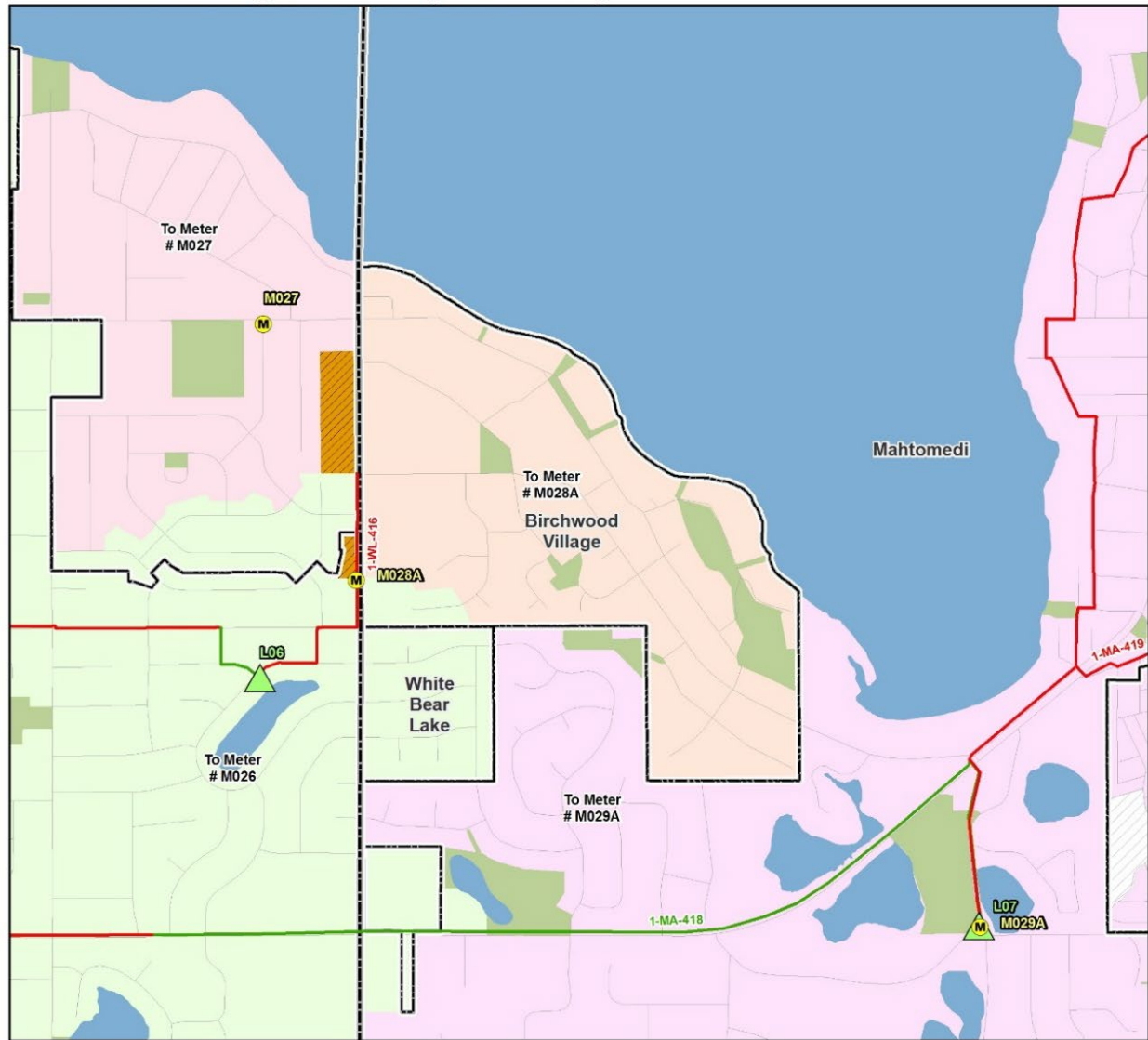


Figure 7-3. MCES Sanitary Sewer Meter Service Areas

MCES Sanitary Sewer Meter Service Areas Birchwood Village, Washington County



- | | | |
|-----------------------------|---------------------|------------------------------------|
| Interceptors by Type | — Outfall | Ⓜ Meters |
| — Gravity | — Low Head Crossing | ▲ Lift Stations |
| — Forcemain | — Bypass | Ⓜ MCES Wastewater Treatment Plants |
| — Siphon | | |
-
- | | |
|--|--------------------|
| Interceptor Meter Service Areas | |
| ■ To Meter # 100 | ■ Areas Not Served |
-
- | | | |
|--|--------------------------------|----------------------------------|
| ■ Areas of Unmetered Flow into the Community | ▭ County Boundaries | ■ Park, Recreational or Preserve |
| ■ Rural Center WWTP Service Areas | ▭ City and Township Boundaries | ■ Golf Course |
| ▨ 2040 MUSA | ▭ Lakes and Rivers | |
| | — NCompass Street Centerlines | |

CHAPTER 8: IMPLEMENTATION

Introduction

As a small community, the City of Birchwood Village has to be methodical and selective about which initiatives it chooses to pursue. With both limited staff resources and budget, it makes the City's relationship with adjacent municipalities and jurisdictions even more critical in order to ensure the City continues to be sustainable into its future. This implementation chapter identifies strategies that the City will employ over this planning period to bring this Comprehensive Plan Update to fruition. Birchwood Village is committed to maintaining the current quality of life for its residents, so many of the strategies that are identified are meant to reemphasize the importance of continuing with current efforts, relationships and initiatives. The purpose of a Comprehensive Plan is to be aspirational, so not only do the implementation strategies identify ways to maintain the current condition of the City but they also identify reasonable and modest improvements that would enhance the community and make it better for generations to come.

The City's Capital Improvement Program does not identify any improvements within the next 5 years that would impact the regional systems. All Capital Improvement Programs relating to regional systems would be limited and primarily focused on maintenance efforts on an as-required basis with no major expansions anticipated. The City reviews all capital expenditure needs annually and will budget for maintenance and improvements accordingly. The City's Capital Improvement Plan (CIP) is continually reviewed, assessed, and subject to modifications as necessary. Table 8-1 below summarizes the City's CIP.

Table 8-1: Birchwood Village Capital Improvement Plan

| Capital Improvements | | | |
|--|-------------|----------------|----------------|
| Project/Program | Scheduled | Estimated Cost | Funding Source |
| Street Mill & Overlay | 2030 | 1,000,000 | CITY |
| Hockey Rink LED Lights | 2035 | \$10,000 | CITY |
| City Hall Rehab | 2022 | 500,000 | CITY |
| Stormwater Management – Birch/Owl St. | As Required | TBD | CITY* |
| Stormwater Management – Cedar/Hall/Wildwood Intersections | As Required | TBD | CITY* |
| Halls Marsh Rehabilitation | 2050 | 1,000,000 | CITY* |
| Wildwood Ave Lift Station | 2025 | 500,000 | CITY* |

| | | | |
|--|------------------|----------|------------------|
| Dellwood Lift Station | 2030 | 500,000 | CITY* |
| Dellwood LS Generator | 2025 | 45,000 | CITY* |
| Tighe-Schmitz Park Multi-Purpose 3 Season Multi-Surface | 2020 | \$40,000 | CITY ENTERPRISE* |
| Water/Sanitary | 2040 | TBD | CITY |
| Water/Sanitary Jetting | 2020, 2025, 2030 | 20,000 | CITY |
| Lake Avenue Mill/Overlay | 2020 | \$50,000 | CITY |
| Grotto Street Paving | TBD | TBD | CITY |
| Tighe-Schmitz Park Playground | 2096 | TBD | CITY* |
| Bloomquist Park Playground | 2096 | TBD | CITY* |

* wherever possible, the City will apply for grants to help cover these expenditures.

Generally, the following Implementation Strategies are organized according to the Chapters contained within this 2040 Plan Update. The implementation strategies listed below are not prioritized, but instead are priorities that should be given equal consideration and the City will capitalize on opportunities as they are presented. Unless otherwise stated below, the implementation strategies will apply and will continue throughout this planning period. Many of these strategies are already in place and the City commits to the continued implementation of them through this planning period.

Land Use

The City does not currently have an official Zoning Map but the following zoning categories are permitted on any lot of record under the City’s Municipal Code except as prohibited or restricted under provisions of the Zoning Code (see also Figure 2-3).

- RESIDENTIAL – any lot designated for private residential purposes (seasonal or year-round) as an open space; a single dwelling having no more than two dwelling units and occupied by not more than two families; or for an accessory use to such but containing no more than two accessory structures.
- INSTITUTIONAL – any lot designated for public municipal buildings or use.
- PARKS/OPEN SPACE – any area owned, improved, maintained, operated or otherwise controlled by the City for public recreational and natural preservation purposes; such as parks, playgrounds, recreational structures, beaches, trails, open areas, special use areas, and lake easements.

- ROW – the area on, below, or above a public roadway, highway, street, cart way, bicycle lane, and public sidewalk in which the City has an interest, including other dedicated right-of-way (ROW) for travel purposes and/or utility easements of the City.

The following Implementation Strategies are provided to support the goals and objectives contained within Chapter 2: Land Use of this Comprehensive Plan Update. The City’s official controls for implementing and overseeing these strategies shall be the City Planner, the City Attorney, the City’s Planning Commission and the City Council.

- The City will support the Future Land Use Plan contained in this Comprehensive Plan through consistent zoning district designations and policies (City Planning Commission and City Council).
- The City will create and maintain an up-to-date official Zoning Map (based off of Figure 2-3) to implement this Comprehensive Plan (City Planner and City Planning Commission).
- The City will review its zoning ordinance with each proposed amendment to ensure consistency with the stated goals and objectives of this Comprehensive Plan (City Planning Commission and City Council).
- Redevelopment of existing single-family homes with major additions or teardowns will be monitored through this planning period, and appropriate review and update to existing ordinances will be performed as necessary (City Planner, City Planning Commission and City Council).
- The City will continue to follow and monitor rule changes at the Minnesota Department of Natural Resources (MN DNR), and the watershed districts for shoreland and wetland policies (*e.g.*, structure setback and coverage requirements) and will make appropriate changes and updates to ordinances for consistency with regulatory agencies having jurisdiction within the City (City Attorney, City Planner, Planning Commission and City Council). The City will assign the City Attorney to track these changes and report yearly to the Council.

Housing

The following Implementation Strategies are provided to support the goals and objectives contained within Chapter 3: Housing of this Comprehensive Plan Update. The City’s official controls for implementing and overseeing these strategies shall be the City Building Official, the City Planner, the City Attorney, the City’s law enforcement agency (currently Washington County Sheriff Dept.), the City’s Planning Commission and the City Council.

- The City will maintain its existing neighborhood pattern and quality by limiting, and in most cases, prohibiting any commercial or business use (City Building Official, City Planner, City Planning Commission and City Council).
- The City will review existing nuisance and administrative ordinances for necessary updates to ensure consistency with this Comprehensive Plan (City Attorney).
- The City will continue to support the City’s existing housing stock and neighborhoods through appropriate code, and as needed, code enforcement (City Planner, City Planning Commission, City Council and City law enforcement).
- Protecting the City’s housing stock through providing support through building permit review, land use application review and other permitting processes will continue to be a high priority for City Staff and resources over this planning period (City Building Official, City Planner, City Planning Commission and City Council).

TRANSPORTATION

The following Implementation Strategies are provided to support the goals and objectives contained within Chapter 4: Transportation of this Comprehensive Plan Update.

- The City will review and update its Capital Improvement Plan (CIP) to plan and budget for maintenance of existing roadways and transportation systems that are the responsibility of the City.
 - › The CIP will plan for a minimum of a five (5) year time period and will be updated regularly.
- The City will continue to prioritize road improvements to ensure local roadways are safe, passible and maintained.
 - › Improvements will be monitored to ensure all roadways are maintained on a regular schedule to ensure that all roads remain at a safe standard.
- The City will continue to work with regional partners including counties, adjacent jurisdictions and Metro Transit to plan for appropriate transportation improvements that will benefit the residents of Birchwood Village.

PARKS, TRAILS AND OPEN SPACE

The following Implementation Strategies are provided to support the goals and objectives contained within Chapter 5: Parks, Trails and Open Space of this Comprehensive Plan Update.

- The City will continue to study opportunities to create a more complete trail system that will provide improved connections within the City and to the region.
- The City will review and update its Capital Improvement Plan (CIP) to plan and budget for maintenance of the City's parks, trails and open space system to ensure the system is well maintained for generations to come. The CIP will plan for a minimum of a five (5) year time period and will be updated regularly.
- The City will continue to use existing parks and open space land for recreational, natural resource protection, and surface water management features. Given the City's small size it is important for municipal owned properties to serve a variety of functions that provide benefits to the whole community.
- The City will create, maintain, implement and update a maintenance plan.
 - › The City currently has playground equipment in two parks. It has a hockey rink and tennis court. These resources will remain in the CIP and maintenance plans.
- The City will strive to replace lost trees from public lands with a diverse tree canopy and encourage the same practice by residents on private lands.
- The City will continue to research opportunities to reduce climate change impacts – like its current agreement to purchase solar power from a local solar community garden. The following are some of the issues the City will consider addressing:
 - › Protect open spaces from chemicals including pesticides and herbicides
 - › Increase the use of pollinators
 - › Adopt a road salt/sand policy to reduce the impact on White Bear Lake
 - › Review possible solutions to reduce carbon footprint.

- › Prohibit the use of certain chemicals that are hazardous for White Bear Lake, such as toxic seal coating materials.

WATER RESOURCES

The following Implementation Strategies are provided to support the goals and objectives contained within Chapter 6: Water Resources of this Comprehensive Plan Update.

- The City will continue to work with the Rice Creek Watershed District on implementation of its requirements and standards within the City.
- The City will cooperate with the Rice Creek Watershed District on any significant regional improvements that may affect the City of Birchwood Village.
- The City will continue to use and encourage residents to use biodegradable erosion control netting when applying temporary ground blankets. Specifically, the City will avoid and will encourage residents to avoid using plastic mesh netting to prevent entrapment and death of small animals.
- The City will review and update its Capital Improvement Plan (CIP) to plan and budget for surface water related improvements. The CIP will plan for a minimum of a five (5) year time period and the City will continue to work with Rice Creek Watershed District to identify key priorities and any potential grant opportunities.

WATER SUPPLY & SANITARY SYSTEMS

The following Implementation Strategies are provided to support the goals and objectives contained within Chapter 7: Water Supply & Sanitary Systems of this Comprehensive Plan Update. The City's official controls for implementing and overseeing these strategies shall be the organizations described below.

- The City's sanitary sewer is currently monitored and managed through an intercommunity agreement with White Bear Township. The City will maintain this agreement and work cooperatively with the Township on any future improvements to the system.
- The City's water supply is currently supplied by the City of White Bear Lake; monitoring and maintenance is contracted out with repairs on an as-needed basis. The City will maintain these agreements and will work cooperatively on any future improvements to the system and evaluate strategies to reduce unnecessary water usage by residents.
 - › The City will continue to defer billing responsibility to the City of St. Anthony Village, which manages billing for municipal water and sewer services. Birchwood Village will provide assistance as needed.
 - › The City will work collaboratively with the City of White Bear Lake through its contracted water superintendent on any issues regarding the Water Supply Permit with the MN DNR, or any required permits, to ensure safe and reliable drinking water is available to the City's residents.